5 8 8 4 5

5 8 8 4 5

MYSORE GAZETTEER



All Rights Reserved

HIS HIGHNESS
SIR SRI KRISHNARAJENDRA WADIYAR BAHADUR, G.C.S.I., G.B.E.,
MAHARAJA OF MYSORE

MYSORE GAZETTEER

COMPILED FOR GOVERNMENT

VOLUME I

DESCRIPTIVE

EDITED BY

C. HAYAVADANA RAO, B.A., B.L.,

Fellow, University of Mysore,
Editor, Mysore Economic Journal, Bangalore.

NEW EDITION

BANGALORE:
PRINTED AT THE GOVERNMENT PRESS
1927

PRINTED AT THE
GOVERNMENT PRESS
BANGALORE

58,84
Class No.
MYS
30.3.66
S.D.
ae
R.G.

GENERAL PREFACE

THE idea of a *Gazetteer of Mysore*, projected as a work in eight volumes, one for each of the present eight districts, first took shape in 1867. But owing to different causes, only two volumes, those relating to Mysore and Kolar, compiled by Mr. H. Wellesley and Mr. B. Krishniengar, C.S.I., were issued. A couple of years after the Census of 1871, Mr. B. Lewis Rice, C.I.E., then Director of Public Instruction in Mysore and Coorg, was charged with the task of compiling one work on a uniform plan. The *Gazetteer* now took the form of two volumes, the first treating of Mysore in general and the second of Mysore by districts, eight in number. This edition was issued in 1876 and attracted favourable notice. The late Sir William Wilson Hunter, K.C.S.I., the Editor of the *Imperial Gazetteer of India*, first and second editions, described them in an official report of 1877 as better than anything he himself had been able to do even for Bengal. Twenty years later, Mr. Rice, still in the service of the State, was called upon to revise the work. The revised edition was published in 1897 and soon won high appreciation. It combined the result not only of much administrative

but also of the latest historical research, a field which in Mysore, Mr. Rice had made peculiarly his own as Director of Archæological Researches and as the Editor of numerous classical Kannada works. His retirement to England has deprived this edition of the benefit of his vast knowledge and well-known literary skill. His interest in the work has, however, been keen and the historical notes sent by him have proved highly valuable.

The second edition issued by Mr. Rice having been out of print for some years, the Government of His Highness the Maharaja resolved that a new edition of the work should be published in connection with the Census of 1911. Orders were accordingly issued in July 1914 appointing Prāktana Vimarsa Vichakshana Rao Bahadur R. Narasimhachar, M.A., then Director of Archæological Researches in Mysore, as its Compiler. He was later succeeded in that capacity by Mr. V. R. Thyagaraja Iyer, M.A., Director of Statistics, and subsequently Superintendent of Census Operations, Mysore State, during 1921. In February 1924, I was entrusted with the work and appointed Editor. The changes which have been effected in the administration of the State within the past thirty years have been such that it was deemed necessary by His Highness's Government that the new edition of the work should be so planned as to fully reflect them in it. Agreeably to their

instructions, the bulk of the work has been raised from two to seven volumes, including a companion Atlas. The single volume dealing with the State in general has now been expanded into four volumes entitled respectively "Descriptive," "Historical," "Economic" and "Administrative." Likewise in place of the previous single volume devoted to the eight districts, two volumes have been set apart for their description, one for the four Eastern and the other for the four Western districts. Changes have been introduced not only in the general plan of the work but also in the methods of compiling the work in order to render it both comprehensive and up-to-date. These changes would justify its being considered a new work rather than a new edition.

The matter included in the several volumes has been read over by the various Departments of His Highness's Government and revised by them in the light of all the information available to them. This has been especially the case in connection with the different chapters included in the volumes bearing on "Economic" and "Administrative." Some of the chapters forming the volume "Historical" have been submitted to the criticism of Rao Bahadur H. Krishna Sastri, B.A., late Epigraphist to the Government of India. For the great help he has rendered in connection with them, I would record my thanks here. The late Rājakāryaprasakta B. Ramakrishna Rao furnished

some valuable notes on the Post-Rendition period, while Dr. R. Shama Sastri, PH.D., the present Director of Archæological Researches in Mysore, has also been obligingly helpful in supplying copies of Departmental Reports whenever required. Several of the Chapters included in this volume have also been read through in manuscript by Messrs. R. Ranga Rao, B.A., B.L. and M. Venkatesa Iyengar, M.A., to whom I am indebted for many valuable suggestions. Prāktana Vimarsa Vichakshana Rao Bahadur R. Narasimhachar, M.A., has assisted me by placing at my disposal reprints of his contributions to the Journals of certain learned Societies.

The general principle adopted in compiling the first volume of the work has been to entrust each chapter forming it to an authority capable of adequately dealing with its subject-matter either by special study or official experience. The following have helped in the preparation of the chapters noted against their names :—

CHAPTER II.

Geology B. Jayaram, F.G.S., Director of Geology in Mysore.

CHAPTER III.

Meteorology C. Seshachar, M.A., F.R. MET. SOC., Meteorological Reporter to the Government of Mysore.

CHAPTER IV.

Botany	...	... G. H. Krumbiegel, F.R.H.S., Superintendent of Botanical Gardens and Economic Botanist to the Government of Mysore, Bangalore.

CHAPTER V.

Zoology	...	... C. R. Narayana Rao, M.A., L.T., Professor of Zoology, Central College, Bangalore.

CHAPTER VII.

Language	...	... Prāktana Vimarsa Vichakshana Rao Bahadur R. Narasimhachar, M.A.

CHAPTER X.

Public Health and Vital Statistics.	A. K. Pani, L.R.C.P. & S., L.F.P. & S. D.P.H., late Sanitary Commissioner in Mysore, Bangalore.

The rest of the chapters have been contributed by me in my capacity as Editor of the work, except that in writing the chapter on "Religion" valuable notes have been furnished by the late Rājasabhā-bhūshana Rev. A. M. Tabard, M.A., M.B.E., M.R.A.S., on the history of the Catholic Church in Mysore and by the Rev. W. H. Thorp, B.A., and the Rev. G. Wilkins on the Protestant Missions in Mysore.

Foot-notes, which are the despair of the general reader, have been avoided. Authorities, where

found necessary, have been cited in the body of the text. Except in the "Historical" volume, these have been kept at a mimimum. Comparative statistics have been, as far as possible, given for the Census years 1881, 1901, 1911 and 1921. In some important cases, the figures for 1871 have also been given. Every attempt has been made to incorporate the figures available up to 1923-24, and in certain cases even to the end of 1924-25. As far as possible all recent administrative changes have been included in the body of the work in the respective chapters. In regard to the spelling of place-names and proper names, the ordinary spelling as approved by the Government of His Highness the Maharaja has been followed. Following the example of the *Imperial Gazetteer of India*, long vowels are indicated by the mark (–) in place of the accent (') which has long since been obsolete.

A bibliography has been given at the end of each chapter, indicating the principal authorities relied on.

In the preparation of the Index, care has been taken to see that it is fairly full and comprehensive, both in regard to subject matter and proper names. While cross-indexing has not been neglected, it has been kept strictly within limits.

BANGALORE,
4th November 1926.

C. HAYAVADANA RAO,
Editor.

TABLE OF CONTENTS

GENERAL PLAN.

	Page
Physical Aspects	1
Geology	18
Meteorology	42
Botany	61
Zoology	74
Ethnology and Caste	135
Language	250
Religion	269
Population	354
Public Health and Vital Statistics	450

CHAPTER I.

Physical Aspects.

Situation and area	1
Boundaries	2
Elevation, etc.	2
Hills and valleys	3
Origin of name	3
Natural divisions	3
A general view of the open country	5
River system	5
Watershed	6
Axial line	7
Limits of the river basins	7
Total length of the main rivers	7
Navigation on the rivers	8
Rafts and ferry boats	9
Irrigation from the rivers...	10
Tank system	10

PAGE

Spring-heads (*Talpargis*) 11
Mountain systems 11
The hill ranges of the table-land 12
General view of the Eastern and Western Ghat ranges 13
Table showing the heights of the peaks 13
Opinion regarding the physical geography of Mysore ... 16
BIBLIOGRAPHY 17

CHAPTER II.

GEOLOGY.

I. Archæan Geology.

Age of the Geological formation of Mysore 18
Order of succession and relative ages of the formations 18
Archæan character of Mysore rocks 19
Area of the Archæan rocks 19
Map showing the distribution of rocks in Southern India 19

II. Post-Archæan Geology.

The story of Post-Archæan rocks 21
Blank in the Geological history of Southern India ... 21
The close of the Carboniferous period 22
The close of the Gondwana epoch 23
The end of the Cretaceous period 23
Summary 23

III. The Dharwar System.

The oldest rocks in Mysore 24
The Dharwar schists 24
Igneous and other types of the Dharwar schists ... 25
Conglomerates 25
Banded ferruginous quartzites 25
Quartzites 27
Limestones 28
Summary 28
Ultra-basic intrusives 29
Other intrusives 29
Distribution of the Schist Belts 30

PAGE

IV. Granites and Gneisses.

Preliminary 32
Champion gneiss 32
Peninsular gneiss 34
Charnockite 35
Closepet granite 35
Dykes 36
Laterite 36
Tabular view of Mysore rocks 36

V. Earthquakes.

Their occurrence in the State 37

VI. Erolites.

Recorded instances, with details 38

BIBLIOGRAPHY 41

CHAPTER III.

METEOROLOGY.

Introductory 42
Temperature 43
Rainfall 45
Local distribution 45
Seasonal distribution of rainfall 47
Sunspots and rainfall in the State 48
Periodicity in rainfall gauged at Tumkur 49
Rainfall and droughts in the State 49
Pressure 50
Wind velocity 51
Humidity 51
Cloud 51
Cyclones 52

TABLE I—Table showing the monthly and annual normals of mean air temperature ... 54

TABLE II—Table showing the average monthly and annual diurnal range of temperature 54

PAGE

TABLE III- Table showing the monthly and annual normals of maximum temperature ... 55

TABLE IV- Table showing the absolute maximum temperature recorded at the four Observatory stations since 1893 ... 55

TABLE V- Table showing the monthly and annual normals of minimum temperature ... 56

TABLE VI- Table showing the absolute minimum temperature recorded at the four Observatory stations since 1898 ... 56

TABLE VII- Table showing the District monthly and annual rainfall normals ... 57

TABLE VIII- Table showing the District seasonal rainfall normals 57

TABLE IX- Table showing the monthly and annual normals of pressure at 8 A.M., reduced to 32°F. 58

TABLE X—Table showing the monthly and annual normals of wind velocity in miles per day 58

TABLE XI- Table showing the monthly and annual normals of relative humidity at 8 A.M. 59

TABLE XII- Table showing the monthly and annual normals of cloud amount at 8 A.M. ... 59

BIBLIOGRAPHY 60

CHAPTER IV.

BOTANY.

I. Forest Flora.

Richness of the flora 61

Area of forests 61

Forest belts 61

The moist evergreen belt and the important forests therein 62

PAGE

Mixed belt of evergreen and deciduous forests and the important forests therein 63
Deciduous teak high forest belt and the important forests therein 64
Deciduous teak pole belt and the principal forests therein 65
Dry deciduous fuel forests of superior and inferior types 65
Shrubs and bushes 66
Sandal 66

II. Horticulture.

General 68
The Lal-Bagh 68
Fruit trees 69
Vegetables 70
Grasses including fodders 70

III. Crops.

Classification of the principal crops 70
Industrial and commercial crops 72

IV. Avenue Trees and Topes—(Arboriculture).

Avenue trees 72
Topes 72
BIBLIOGRAPHY 73

CHAPTER V.

ZOOLOGY.

I. Introduction.

Introduction 74

II. Mammals.

Cercopithecidæ (Monkeys) ... 75
Lemuridæ (Loris) 76
Felidæ (Cats) 77
Viverridæ (Mongooses) 80
Hyænidæ (Hyæna) 80
Canidæ (Dogs) 81
Mustelidæ (Otters) 81

PAGE

Ursidæ (Bears) 81
Insectivora (Shrews and their kindred) 82
Chiroptera (Bats) 82
Rodentia (Gnawing animals) 84
Ungulata (Hoofed animals) 86
Edentata (The Indian pangolin) 90

III. Birds.

Introduction 90
Passeres (Crow tribe) 90
Pici (Wood peckers) 99
Zygodactyli (Barbets) 100
Ansiodactyli (Rollers, etc.) 100
Macrochires (Swifts, etc.) 102
Coccyges (Cuckoos, etc.) 102
Psittaci (Parrots, etc.) 104
Striges (Owls) 105
Accipitres (Birds of prey) 106
Columbæ (Pigeons, etc.) 107
Pterocletes (Pigeon-grouse) 108
Gallinæ (Fowls and game birds) 108
Hemipodii (Quails) 109
Grallæ (Rails) 109
Limicolæ (Curlews) 110
Gaviæ (River terns) 110
Steganopodes (Darters, cormorants, etc.) 110
Herodiones (Storks, etc.) 111
Anseres (Duck tribe) 111

IV. Reptiles.

Introduction 111
Emydosauria (Crocodiles) 112
Chelonia (Tortoises, etc.) 112
Squamata (Lizards, snakes, etc.) 113

V. Amphibians.

Introduction 118
Ecaudata (Frogs and toads) 118
Apoda (Limbless batrachia) 120

PAGE

VI. Fishes.

Introduction 121
Physostomi (Cat-fishes, etc.) 121
Acanthopterygii (Snake-heads, etc.) 125

VII. Elephant Kheddahs.

Pit method 126
Kheddahs 128
Mysore system 129
Statistical table of captures 130

VIII. Game Law.

The Mysore Game and Fish Preservation Regulation ... 130
Elephants (Madras Act No. I of 1873) 132

BIBLIOGRAPHY 133

CHAPTER VI.

ETHNOLOGY AND CASTE.

Pre-historic races 135
Their relation to the modern population 138
Three primary ethnic elements in the modern population 138
Anthropometry as a test of race 139
The main indigenous castes and tribes, and their racial affinities 140
Southern India, an ethnological block 143
The Dravidian problem 143
De Quatrefage's theory 145
Review of other theories 149
Racial affinities of Pre-Dravidians 150

The Dravidians proper:—

The theory of early Philologists 156
The theory of the Craniologists 164
The complexity of the problem 170
Caste and race 170
Origin of caste 173
Effects of caste 174
Right-hand and Left-hand castes 177

PAGE

General characteristics of Mysore castes 181
Mother-Kin 181
Pre-marital communism 185
Post-marital license 186
Divorce 187
Polygamy 187
Widow re-marriage 188
Form of re-marriage 190
Influence of religion 191
Restrictions on marriage 192
Totemism 196
Marital age 199

Forms of marriage :—
(*a*) Purchase of bride 200
(*b*) Relics of marriage by capture 202

Marriage ceremonies, etc. 204
Other minor characteristics 205
Funeral ceremonies 208
Some unusual or curious customs 209
Caste in proverbs 210

Brief Descriptions of Main Castes and Tribes.

General 212
Banajiga 213
Beda 213
Bestha 214
Brahman 215
Golla 226
Kadu Golla 227
Holeya 228
Jain 229
Kuruba 230
Lingayat 231
Madiga 234
Neygi 237
Devanga 238
Khatri 238
Patvegar 238

PAGE

Sālé 239
Sowrashtra 239
Seniga 240
Togata 240
Panchala 240
Uppara 241
Vodda 242
Vokkaliga 242
BIBLIOGRAPHY 248

CHAPTER VII.

LANGUAGE.

Linguistic progress 250
Dravidian race and languages 250
Chief languages of the State 251
Minor languages 252
Kannada, the distinctive language of the State ... 253
Karnataka—Derivation 254
Region in which Kannada is spoken 256
Dialects of Kannada 257
Number of people speaking Kannada 257
The literary and the colloquial dialect 257
The written characters 259
The Dravidian languages; their relationship to other languages 261
The main characteristics of the Dravidian forms of speech 263
Four classes of words 264
Early Kannada authors 265
Ancient, Mediæval and Modern Kannada 265
BIBLIOGRAPHY 268

CHAPTER VIII.

RELIGION.

I. General.

Pre-historic religion 269
Neolithic man 269

PAGE

Iron age man 269
Pre-Dravidian religion 270

II. Animism.

Dravidian religion 270
Spirit worship: Grāmadēvatas 273
A typical Grāmadēvata festival 274
Origin of Grāmadēvatas 276
Other general features 278

III. Vedic Hinduism.

Vēdic Hinduism 280
Brahman immigration into Mysore 281
Development of Vēdic Hinduism 282
Light from Mysore inscriptions 283

IV. Jainism.

Jainism 284
Jain immigration into Mysore 286
Their chief *Gurus* and *Mutts* 287
Their sects 289
Their moral code 290
Their ritual 291
Their sacred books 291
Their Tīrthankaras 293
Jainism in Mysore 294

V. Buddhism.

Buddhism 295
Causes of its decline 297

VI. Later Hinduism.

(*a*) THE SEVERAL BRAHMAN SECTS.

Leading Brahman sects 298
Smārtas: Sankarāchārya 299
His works 301
His system of Vedanta 304
Sringeri Mutt 306

PAGE

Sri Vaishnavas 308
Antiquity of Vaishnavism: The Bhāgavatas 308
The Ālvars 309
Nāthamuni and his successors 310
Rāmānuja 311
His flight to Mysore 313
His system of Vēdānta 315
Later history of Vaishnavism 316
Madhvas: Madhvāchārya's date 317
His life 317
His works 318
His system of Vēdānta 319
Madhva *Mutts* 320

(*b*) LINGAYATS.

Vīrasaivas 322
Early Saivism 323
Influence of Kashmirian Saivism 324
Pāsupatha system 324
Its spread in the State 325
Basava's reform 326
Spread of his religion 327
Vīrasaiva doctrines 328

VII. Islam.

Islam 331

VIII. Christianity.

The Catholic Church 340
The London Mission 347
The Wesleyan Mission 349
Other Churches... 351
BIBLIOGRAPHY 353

CHAPTER IX.

POPULATION.

Composition of the population of the State 354
Area and population of the State 355

	PAGE
Variation in the population of the State	360
"Dwelling" and occupied houses in the State ...	363
Towns and villages	364
Migration—	
(*a*) Immigration	367
(i) From Provinces of India	367
(ii) From beyond India	368
(iii) Into particular cities	369
(iv) Into districts	370
(v) Inter-district	370
(*b*) Emigration	371
(*c*) Comparative Statistics	371
Religion—	
Hindus	372
Muhammadans	374
Christians	375
Animists	377
Jains	377
Minor Religions	378
Age	378
Sex	382
Civil Condition	390
Education	394
Language	398
Infirmities	399
Caste, Tribe or Race	403
(*a*) Hindus...	404
(*b*) Muhammadans	406
(*c*) Christians	406
Occupations	407
Population and means of subsistence	409
General characteristics of the people	413
Dwellings in towns and villages	415
Dress	418
Food	424
Social Life	428

PAGE

Tabular Statements—

TABLE I—General Statement... 431
TABLE II—Variation of Population since 1871 ... 431
TABLE IIA—Density of Poyulation from 1871 to 1921 433
TABLE III—Population distributed by districts and cities 434
TABLE IV—Towns and villages classified by population 434
TABLE V—Population of chief towns 435
TABLE VI—Religion 436
TABLE VII—Age 436
TABLE VIII—Civil condition 437
TABLE IX—Education 438
TABLE X—Language 439
TABLE XI—Statistics of main castes or tribes ... 440
TABLE XII—Castes classified according to their traditional occupations 442
TABLE XIII—Selected occupations—1921, 1911 and 1901 444
TABLE XIV—Occupations of selected castes ... 446

BIBLIOGRAPHY 449

CHAPTER X.

PUBLIC HEALTH AND VITAL STATISTICS.

Conditions in the *Maidān* Districts... 450
Conditions in the *Malnād* Districts 450
Results of investigations in the *Malnād* 451
Factors affecting the *Malnād* 451
Amelioratory methods adopted in the *Malnād* ... 455
Variation in population since 1901 455
Registration of vital statistics 455
Factors affecting Birth-Rate in Mysore 456
Average Birth-Rate for the State 456
Proportion of male to female births 457
Principal causes of mortality 457
Urban and Rural Birth-Rates 458

	PAGE
Factors affecting Death-Rate in Mysore	458
Causes of Infantile Mortality	459
Infant Mortality, an index of standard of Public Health	461
Epidemics—	
(*a*) Plague	462
(*b*) Anti-Plague measures	464
(*c*) Influenza	465
Conclusion	467
STATEMENT I—Variation in Population since 1901.	469
STATEMENT II—Statement showing the Birth-Rates per mille of population for the Mysore State from 1913 to 1925 ...	469
STATEMENT III—Statement showing the Death-Rates per mille of population for the Mysore State from 1913 to 1925 ...	471
BIBLIOGRAPHY	472

THE MYSORE GAZETTEER

VOLUME I

DESCRIPTIVE

CHAPTER I

PHYSICAL ASPECTS

Situation and area.

THE State of Mysore occupies a position physically well defined, in the South of India; and has been termed a rocky triangle, a not inapt description. It is a table-land, situated in the angle where the Eastern and Western Ghat ranges converge into the group of the Nilgiri Hills. West, south and east, therefore, it is enclosed by chains of mountains, on whose shoulders the plateau which constitutes the country rests. On the west, the boundary approaches at one part to within 10 miles of the sea, but in general preserves a distance of from 30 to 50 miles from the coast: on the east, the nearest point is not less than 120 miles. The southern extremity is 250 miles from Cape Comorin. The northern frontier is an exceedingly irregular line, ranging from 100 miles south of the river Krishna on the west to 150 on the east.

The country extends between the parallels of 11°36′ and 15°2′ north latitude, and between the meridians of 74°40′ and 78°36′ east longitude embracing an area of 29,474·82 square miles including the area of the Civil and Military Station, Bangalore, as determined by

the Surveyor-General of India from the survey on the one-inch scale. It is, therefore, nearly equal to Scotland, whose area is 30,405 square miles. The greatest length north and south is about 230 miles, east and west about 290.

Boundaries.

It is surrounded by the Madras Presidency on all sides, except on part of the west, where the Bombay Presidency northwards and Coorg southwards form the boundaries. The Madras Districts bordering on it are Bellary and Anantapur on the north; Cuddapah, North Arcot and Salem on the east; Coimbatore, Nilgiris and Malabar on the south; South Kanara on the west. The Bombay Districts of Dharwar on the north and North Kanara on the west complete the circle. Coorg intervenes between the adjacent parts of South Kanara and Malabar on the south-west.

Elevation, etc.

The general elevation rises from about 2,000 feet above the sea-level along the northern and southern frontiers to about 3,000 feet along the central water-parting, which separates the basin of the Krishna from that of the Cauvery and divides the country into two nearly equal parts. But the surface is far from preserving the even character, suggested by the designation of table-land. For the face of the country is everywhere undulating, much broken up by lines of rocky hills or lofty mountains and scored in all parts by *nalas* or deep ravines. There is probably not a square mile in the whole superficies absolutely flat or level, the slope of the ground ranging from 10 to 20 feet per mile in the more level portions, and as high as 60 to 80 feet elsewhere. The Bhimesvar valley in the Sagar Taluk, Shimoga District, is probably the lowest point in Mysore with an elevation of only 278 feet, Mulainagiri in the Bababudans in Kadur District with a height of 6,317 feet being the highest point.

Hills and valleys.

The country is longitudinally intersected by single or aggregated chains of hills, running chiefly north and south, or in a direction nearly parallel to the two coasts. They lie at uncertain and unequal distances from each other, and accordingly form sometimes wide and sometimes narrow valleys. Isolated peaks of *massy* rock, termed by Europeans *droogs* (Sanskrit *dur-ga*, difficult of access, hill-fort,) rearing their heads to 4,000 or 5,000 feet above the level of the sea, stand forth like sentinels on every hand; mostly crowned with the remains of fortifications, whose position, with the advantage of an unfailing supply of water at the summit, rendered them well-nigh impregnable strongholds. Besides these, clusters or piles of naked rocks, composed of immense rounded boulders, are frequent; large fragments being often delicately poised, like loggans, upon some projecting point; appearing as if a touch would overturn them, and yet sometimes supporting a shrine or *mandapa*.

Origin of name.

The name "Mysore" is that of the capital, Maisur, for Mahishur (from *mahisha*, Sanskrit for 'buffalo,' reduced in Kanarese to *maisa*, and *uru*, Kanarese for 'town' or 'country,') which commemorates the destruction of Mahishasura, a minotaur or buffalo-headed monster, by Chamundi or Mahishasura Mardini, the form under which the consort of Siva is worshipped as the tutelary goddess of the ruling family. It forms the main part of the region called throughout Hindu literature Karnata or Karnataka, a term now wrongly applied to the districts below the Eastern Ghats.

Natural divisions.

Mysore naturally divides itself into two separate regions, each of which has well-marked and distinctive features.

(*a*) *Malnād*.—The Malnād, literally hill country, lies to the west, and is confined to the tracts bordering or

resting on the Western Ghats. It is a land of magnificent hill and forest, presenting alterations of the most diversified and charming scenery. A fertile soil and perennial streams clothe the valleys with verdant cultivation. The sheltered hillsides are beautiful with waving woods, sometimes known as *Shōlas*, which give shade to numerous plantations of coffee. Higher up are swelling downs and grassy slopes, dotted over with park-like groups of trees. The *Kan* or evergreen forests, confined almost solely to the north-western parts of the Shimoga District, abound in rich soil and are exceedingly striking and distinctive in character and afford a striking contrast. Above all, the gigantic mountains rear their towering crests in every fantastic form of peak. Human dwellings are few and far between. A cottage here and there, picturesquely situated on the rising ground bordering the rice-fields, and hidden amid plantations of areca, palm and plantain, marks the homestead of a farmer and his family. Towns there are none, and villages of even a dozen houses are rare. The incessant rain of the monsoon months confines the people to their own farms. Hence each householder surrounds himself with all the needs, and succeeds in making himself to a great extent independent of the external world. The conditions of this isolated life are insupportable to immigrants from the plains.

(*b*) *Maidan.*—By far the greater portion of the State, or all to the east and north of a line from (say) Shikarpur to Periapatna, continued along the southern border to the Biligirirangan hills, belongs to the division of Maidan, *Bailshīme*, or open country. Although much of the intermediate region partakes of the characteristics of both, the transition from the Malnād to the Maidan is in some places very marked. Dense forests, which shut in the view on every hand, give place to wide-spreading plains: the solitary farm to clustering villages and populous towns.

Man meets with man, the roads are covered with traffic and the mind feels relief in the sympathy of numbers.

A general view of the open country.

The means of water-supply and the prevailing cultivation give the character to the various parts of the open country. The level plains of alluvial black soil, as in the north, growing cotton or millet; the districts irrigated by channels drawn from rivers, as in the south and west, displaying the bright hues of sugar-cane and rice-fields; the lands under tanks, filled with gardens of cocoanut and areca palms; the higher-lying undulating tracts of red soil, as in the east, yielding ragi and the common associated crops; the stony and wide-spreading pasture grounds, as in the central parts, covered with coarse grass and relieved by shady groves of trees. The aspect of the country changes with the seasons, and what in the dry and cold months, when the fields are lying fallow, appears a dreary and monotonous prospect, speedily assumes under the first operations of the plough the grateful hues of tillage; which, under the influence of seasonable rains, give place in succession to the bright verdure of the tender blade, the universal green of the growing crops, and the browner tints of the ripening grain. The scene meanwhile is full of life, with husbandmen, their families and cattle engaged in the labours of the field. These are prolonged in stacking and threshing until the cold season again sets in and the country once more assumes a parched and dusty aspect.

River systems.

The drainage of the country, with a slight exception, finds its way to the Bay of Bengal, and is divisible into three great river systems; that of the Tungabhadra on the north, the Cauvery on the south, the two Pennars and the Palar on the east. The only streams flowing to the Arabian Sea are those of certain taluks in the north-west, which, uniting in the Sharavati, hurl themselves

down the Ghats in the magnificent falls of Gersoppa; and some minor streams of Nagar and Manjarabad, which flow into the Gargita and the Netravati. The course of each river will be found described in detail in another volume of this *Gazetteer*.

Watershed

A line drawn east from Ballalrayan-durga to Nandidurga (Nandy-droog) and thence south to Anekal, with one from Devarayadurga north to Pavagada will indicate approximately the watershed separating the three main river-basins. From the north of this ridge flow the Tunga and the Bhadra, rising in the Western Ghats and uniting in the Tungabhadra, which, with its tributary the Hagari or Vedavati, joins the Krishna beyond the limits of Mysore between Kurnool and Srisaila. From the south of the line, the Hemavati (with its affluent the Yegachi), the Lokapavani, Shimsha and Arkavati flow into the Cauvery, which, rising in Coorg and taking a south-easterly course through the country, receives also on the right bank the Lakshmantirtha, the Gundal, the Kabbani and the Honnu Hole before quitting the territory. From the east of the line, in the immediate neighbourhood of Nandidurga, spring three main streams, forming a system which Lassen has designated "die Tripotamie des Dekhans," namely, Pennar, the Uttara Pinakini or Northern Pennar (with its tributaries the Chitravati and Papaghni), which discharges into the sea at Nellore; Ponnaiyar, the Dakshina Pinakini or Southern Pennar (Tamil *Ponniar* or *Poun-ar* and Telugu *Pennair*), which ends its course at Cuddalore; and between them the Palar, whose mouth is at Sadras. A continuation of the east and west line through Nandidurga to Sunnakal will mark the water-parting between the first and the other two; which, again, are divided by a line passing from Jangamkote to Bowringpet and the Betarayan hills.

The axial line

More accurately described, the axial line or "great divide" which forms as it were the backbone of the country, starts from the north of Ballalrayandurga and runs east-by-north to near Aldur. Thence it makes a bend, first, northwards up to the western extremity of the Bababudan range and then south-east, passing between Belur and Halebid, down to Sige Gudda in the north of the Hassan taluk. From this point it strikes across the map in an east-north-east direction, rounding the southern extremities of the Harnhalli and Hagalvadi hills, up to near Koratagere, where it encounters the great meridional chain of mountains. Following the range south, past Devarayadurga to near Dodbele, it resumes an east-north-easterly course to Nandidurga and continues the same to the frontier near Sunnakal. Geographically it lies between the parallels of 13° 10′ and 13° 25′.

Limits of the river basins.

A line projected north from the west of Koratagere up through Pavagada to the frontier, and one south from Nandidurga by Bangalore to Anekal, mark pretty nearly the limits of the respective river basins in the transverse direction. This water-parting falls between the meridians of 77° 10′ and 77° 30′.

The basin of the Sharavati, which runs to Honavar on the Kanara coast, occupies the west of the Shimoga District. It may be defined by a line drawn from Kodachadri south-east to Kavaledurga, thence north-east by Humcha to Masarur, and west-north-west by Anantapur and Ikkeri to Talguppa. The streams between Kodachadri, Kavaledurga and the Agumbi ghat westwards, run down to Coondapoor; and those of western Manjarabad, to Mangalore.

Total length of the main rivers.

The following statement contains an estimate of the total length, within the State, of the main rivers with their principal tributaries; and the total area of the

catchment basin under each river-system within the same limits:—

River system	Total length of Rivers	Total area of Basins
	Miles	Square Miles
Tungabhadra	611	11,031
Cauvery	646	9,486
N. Pennar	167	2,280
S. Pennar	32	1,541
Palar	47	1,036
Sharavati and West Coast rivers	103	1,881

Navigation on the rivers.

Owing to either rocky or shallow beds, none of the Mysore rivers is navigable, but bamboo floats and occasionally dry timber floats are carried down the Tunga, the Bhadra, and the Kabbani in the rainy season when they are in floods and offer a smooth water surface free from projecting rocks and other obstacles. Most of the streams are fordable during the dry months, or can be crossed by rude bridges formed of logs or stones thrown across from boulder to boulder. During floods, and when freshes come down, traffic over the streams is often suspended until the water subsides. But throughout the rainy season they are generally crossed at the appointed ferries by rafts, basket boats, canoes, or ferry boats. Men also sometimes get over supporting themselves on either earthen pots or dry gourds. From the following statement in Buchanan, it appears that Haidar attempted to establish navigation on the Tunga:—

"From Mangalore Haidar brought to Shimoga many carpenters, and built a number of lighters of about eight tons burthen. They are strong and flat bottomed; but, as the greater part of them have been allowed to remain on the bank where they were built, I doubt not that they were found very useless. The attempt is, however, no impeachment on the sagacity of Haidar, who, having been educated in a place remote from every kind of navigation, could have no idea of what boats could perform nor of what obstacles would prevent

their utility. To attempt dragging anything up such a torrent as the Tunga would be vain; but, after having seen the boats, and known that some of them have been actually navigated down the river, I have no doubt of its being practicable to carry down floats; and on these perhaps many bulky articles of commerce might be transported."

Rafts and ferry boats.

The *teppa* or raft is formed of bamboos lashed together, and merely affords an unsteady footing, the water washing freely through. The *harigolu* or coracle is a circular basket of stout wicker-work, composed of interlaced bamboo laths and covered with buffalo hides. It is 8 or 10 feet in diameter, with sides 3 or 4 feet high. Herodotus notices, as one of the most remarkable things he had seen at Babylon, boats of a construction so exactly similar that the description of one would precisely answer for the other, with the single difference of substituting willow for bamboo. These boats carried the produce of Armenia, and "the parts above Assyria," down the Euphrates to Babylon; and each boat along with its cargo carried a few asses for the purpose of conveying the returns by a shorter overland route. Boats of the description noticed by Herodotus, although apparently unknown in Greece at that period, were in after ages commonly used in Italy on the Po; and in Britain in the time of Cæsar. Boats of the same materials but of different shape were until recently used in South Wales, and the north-west of Ireland; in the former country they were named *corracle*, in the latter *corraigh*. A smaller kind of *harigolu*, which holds only two people, is used for crossing some jungle streams. The *doni* or canoe is a dug-out, or hollowed log pointed at the two ends. The *sangda* (cf. *Saggada* of the *Periplus*), or regular ferry boat, is formed of two canoes secured together, with a platform or deck fastened upon them, and has sides turning on hinges which, let down, form a gangway for loading and unloading. All these crafts are

propelled by a long bamboo pole, and are dependent for their course upon the currents. But paddles are sometimes used with the canoes and with rafts when the water is too deep to reach the bottom with a bamboo.

Irrigation from the rivers.

Though useless for purposes of navigation, the main streams, especially the Cauvery and its tributaries, support an extensive system of irrigation by means of channels drawn from immense dams, called *anicuts* (Kanarese *ane katte*, dam, dyke or embankment), which retain the upper waters at a high level and permit only the overflow to pass down stream. These works are of great antiquity, the large Talkad anicut, the lowest down on the Cauvery, having been constructed a thousand years ago; while the most recent, with a few exceptions, are not less than three centuries old. "The dreams which revealed to favoured mortals the plans of these ingenious works," says Wilks, "have each their appropriate legend, which is related with reverence and received with implicit belief." The channels or *kalves* thence drawn, meander over the adjoining tracts of country on either bank, following all the sinuosities of the ground, the total length running being upwards of 1,190 miles. The anicuts and channels will be found fully described under the respective rivers in another volume of this *Gazetteer*.

Tank system.

There are no natural lakes in Mysore, but the streams which gather from the hillsides and fertilize the valleys are, at every favourable point, embanked in such a manner as to form a series of chain of reservoirs, called tanks (Kanarese *Kere*), the outflow from one at a higher level supplying the next lower, and so on all down the course of the stream at a few miles apart. These tanks, varying in size from small ponds to extensive lakes, are dispersed throughout the country to the number of

38,080; and to such an extent has this principle of storing water been followed that it would now require some ingenuity to discover a site suitable for a new one without interfering with the supply of those already in existence. One of the largest tanks is Sulekere, 40 miles in circumference. Other large ones are the Ayyankere, Madaga-kere, Masur-Madaga-kere, Vyasa-samudra, Ramasagara, Moti Talab, etc., of which accounts will be found elsewhere (see another volume of this *Gazetteer*). Among large irrigational works of recent construction are the Vanivilasa-sagara in the Chitaldrug District and Krishnaraja-sagara in the Mysore District formed by damming the Vedavati and the Cauvery, respectively.

Spring-heads (*Talpargis*).

Spring-heads called *talpargis* form an important feature of the hydrography of the north-east. They extend throughout the border regions situated east of a line drawn from Koratagere to Hiriyur and Molakalmuru. In the southern parts of this tract the springs may be tapped in the sandy soils at short distances apart, and the water rises close to the surface. Northward the supply is not so plentiful. In Pavagada a soft porous rock has to be cut through before reaching the water, and in the taluks of the Chitaldrug District hard strata of rock have sometimes to be perforated. When the water is obtained, it is either conducted by narrow channels to the fields, or a *kapile* well is constructed, from which the water is raised by bullocks.

Mountain systems.

From the gigantic head and shoulders, as it were, of the lofty Nilgiri group, which commands the southern frontier, are stretched forth like two arms, in a north-west and north-east direction, respectively, the Western and Eastern Ghat ranges, holding within their mighty embrace the mountain-locked plateau of Mysore. The hills of this table-land, though rarely in continuously

connected chains, arrange themselves into systems crossing the country longitudinally, in directions more or less parallel with the Eastern and Western Ghats according to their proximity to one or the other; and attaining their greatest elevation between 18 and 13½ degrees of north latitude, along the north of the watershed line dividing the Tungabhadra and Cauvery river systems.

The hill ranges of the table-land.

(*a*) The best defined of these, which may be styled the Closepet-Tumkur range, has a width of from 10 to 29 miles and runs between the meridians of 77 degrees and 77½ degrees from the Biligirirangan hills as their western limit, through Kankanhalli northwards up to Maddagiri, and on to the frontier by way of Pavagada and Nidigal.

(*b*) Close to this on its eastern side are the minor ranges of Nandidroog and Ambajidurga; the former, commencing near the hill of that name, stretches northwards by Gudibanda to Penukonda and the latter passes close by the town of Kolar and Bagepalli.

(*c*) Between the Closepet-Tumkur range and the Western Ghats are a series of longitudinal hill ranges having considerable intervals sometimes between its component parts.

Starting from near Mysore a long continuous chain of mostly smooth-looking hills, with a variable width of 2 to 14 miles, passes by Nagamangala and Chiknayakanhalli; and crossing the middle of the north of Kankuppa in a north-north-western direction.

(*d*) Further west a similar medial chain, including the loop of the Bababudans, commences from near Chikmagalur and runs north by Ajjampur, Ubrani, Basavapatna, Honnali and Male-bennur, along the right bank of the Tungabhadra, to the frontier where it crosses that river.

The Bababudan hills, having the shape of a horse-shoe, rise majestically like some Titanic bastion, as it were,

guarding the approaches to the Malnād, or the highland region, formed by the congeries of hills and mountains which intervene between the range and the Ghats on the west.

(*e*) Another well-pronounced range lies to the west of this along the meridian of about 75½ degrees from Ballalrayandurga up to beyond Shikarpur, passing by Koppa, Shankaragudda and Kumsi and ultimately coalescing with the previous range to the north of Honnali.

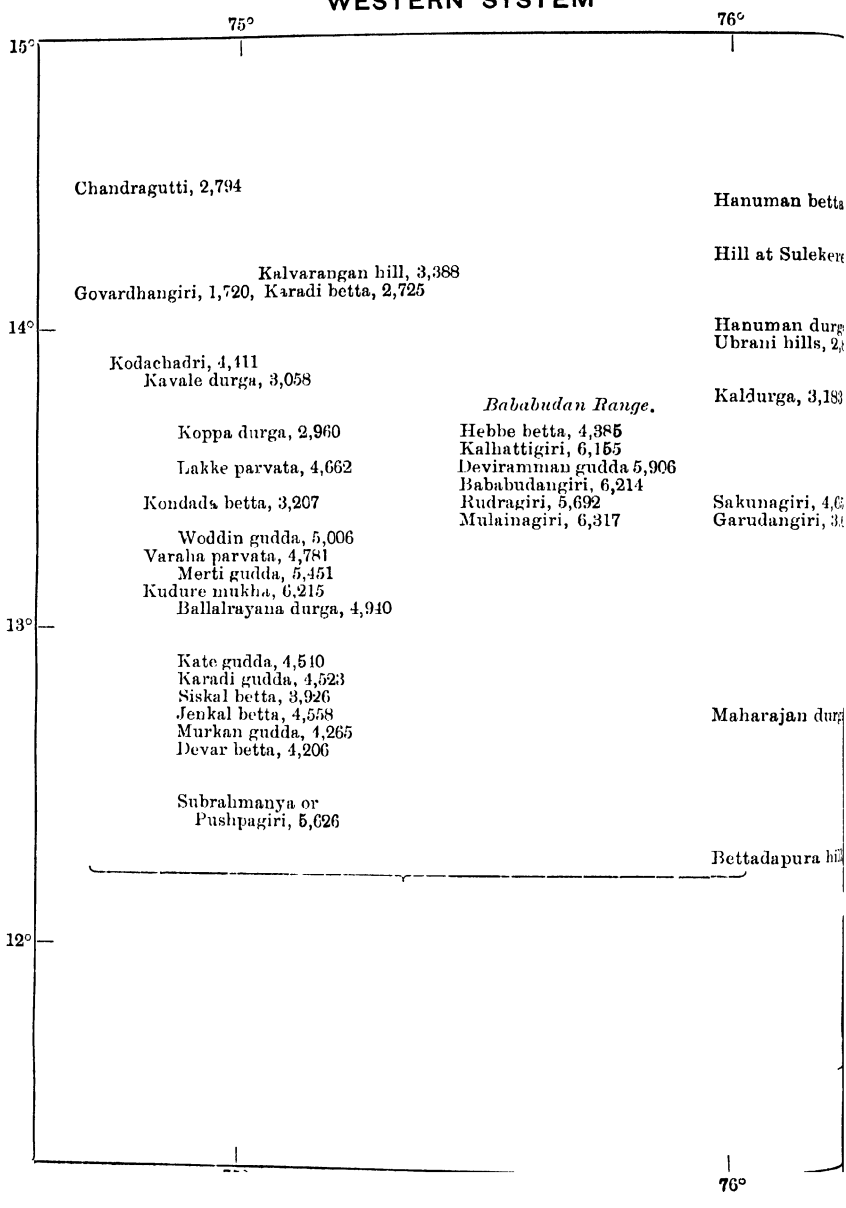
(*f*) Besides these in the table-land, there are a few other minor chains of hills, such as those of Hosdurga and Arsikere and some isolated hills like Chamundi, Bettadpur-betta and Gopalaswami-betta in the south.

General view of the Eastern and Western Ghat ranges.

Viewing the mountains as a whole, the Eastern and Western Ghat ranges might be compared to the antlers of a stag, the branching tynes being represented by the intermediate parallel chains starting from the north of the central watershed and more or less connected by cross ridges along their southern extremities. The chief peaks of the western system are loftier than those of the eastern. Except on the verge of the Western Ghats, all the mountains throughout the country, it is believed, present their steepest escarpment more or less eastwards. In the west, Mulainagiri, and in the east, Nandidroog, are the highest elevations, and they are almost on the same parallel or between 13° 23′ and 13° 24′, immediately north of the central watershed. The loftiest points just south of that line are Ballalrayandurga in the west, and Sivaganga in the east, both situated between 13° 8′ and 13° 10′.

Table showing the heights of the peaks in the two systems.

The table on the following page will serve to show the arrangement and altitude of the principal peaks in each system. The figures are mostly taken from the charts


WESTERN SYSTEM
75°
76°
15°
14°
13°
12°
Chandragutti, 2,794
Kalvarangan hill, 3,388
Govardhangiri, 1,720, Karadi betta, 2,725
Kodachadri, 4,411
Kavale durga, 3,058
Koppa durga, 2,960
Lakke parvata, 4,662
Kondada betta, 3,207
Woddin gudda, 5,006
Varaha parvata, 4,781
Merti gudda, 5,451
Kudure mukha, 6,215
Ballalrayana durga, 4,940
Kate gudda, 4,510
Karadi gudda, 4,523
Siskal betta, 3,926
Jenkal betta, 4,558
Murkan gudda, 4,265
Devar betta, 4,206
Subrahmanya or
Pushpagiri, 5,626
Bababudan Range.
Hebbe betta, 4,385
Kalhattigiri, 6,155
Deviramman gudda 5,906
Bababudangiri, 6,214
Rudragiri, 5,692
Mulainagiri, 6,317
Hanuman betta
Hill at Sulekere
Hanuman durg
Ubrani hills, 2,
Kaldurga, 3,183
Sakunagiri, 4,6
Garudangiri, 3
Maharajan durg
Bettadapura hi
76°

EASTERN SYSTEM

77° 78°

Santi gudda, 2,595
Jatinga Rameswara hill, 3,469
Nunke Bairava hill, 3,022

pa hill, 2,721

ra betta, 3,286

ıg, 3,329 Nidugal, 3,772 Itikal-durga, 3,569
radi, 3,803 Pavagada, 3,026 14°

iri, 2,274

Midagesi durga, 3,376 Dokkal konda, 3,807
a, 3,226 Madgiri durga, 3,935 Gudibanda, 3,361
Channarayan durga, 3,744 Mudimadagu 4,528
Kortagiri, 2,906 Haribaresvara betta, 4,122 Sunnakal, 4,229

di hills, 3,543 Kalavar durga, 4,749
Devaraya durga, 3,940 Chaurayan betta, 4,762 Ambaji durga, 4,399
Nandi durga, 4,851 Rahman Ghar, 4,227
Nijagal, 3,569 Brahmagiri, 4,657
Dibgiri
Kurudu male
Sivaganga, 4,559 Halsur betta, 3,341 Kolar hills, 4,026 3,312
Bairan durga, 3,499

ıngiri, 3,221 Hutri durga, 3,713 – 13°
Savan durga, 4,024 Tyakal hills, Petrayan konda
Huliyur durga, 3,086 3,701 3,006
Bannerghatta, 3,271 Yerra konda,
Ramgiri, 3,066 3,359
Sivangiri, 2,931
Mudvadi durga, 3,131
Banatmari betta, 3,422
Kabbal durga, 3,507

durga, 3,589
i, 3,579

Koppa betta, 2,821
ta, 3,190
Rocks, 2,882
a, 2,697

di betta, 3,489 – 12°

Biligirirangan hills.

Biligirirangan betta, 4,195
Matpod hill, 4,969
Punajur hill. 5,091

wami hill, 4,770

iri Group.

etta, 8,760

77° 78°

of the Great Trigonometrical Survey of India, supplemented from those of the Topographical Survey. Furnished at the summit with springs which yield an unfailing supply of water, most of these heights seem formed by nature for secure retreats. Hence there are few of the more prominent ones that have not been surrounded or capped with fortifications, often carried in long lines, with a vast expenditure of labour, along all the spurs and projections of the *droog*, forming strongholds with good reason deemed impregnable before the time when British artillery was directed against their walls. A particular account of the most interesting fortifications will be found under each district.

Opinion regarding the physical geography of Mysore.

The following is Mr. R. D. Oldham's account regarding the physical geography of this part of India:—

"In the peninsular area the mountains are all remnants of large table-lands, out of which the valleys and low lands have been carved. The valleys, with a few local exceptions, are broad and open; the gradients of the rivers low, and the whole surface of the country presents the gently undulating aspect characteristic of an ancient land surface."

"The Anamalai, Palni and Travancore hills, south of the Palghat gap, and the Shevaroy and many other hill groups scattered over the Carnatic, may be remnants of a table-land once united to the Mysore plateau, but separated from it and from each other by ancient marine denudation. Except the peculiar form of the hills, there is but little in favour of this view, but on the other hand there is nothing to indicate that the hill groups of the Carnatic and Travancore are areas of special elevation."

Bibliography.

B. Lewis Rice.—Mysore Gazetteer, 1897.
General Administration Report of Mysore for 1872-73.
Selections from the Records of the Mysore Commissioner's Office.
Dr. Benjamin Heyne.—Statistical Fragments on Mysore.
Report of the Nagar Division of Mysore.
Memorandum on the Malnad of the Ashtagram Division.
Report on the Chitaldrug Division.
General Administration Report of Mysore for 1911-12.
R. D. Oldham.—Manual of the Geology of India, 2nd Edition, 1893.

CHAPTER II.

GEOLOGY.

I. Archæan Geology.

Age of the geological formation of Mysore.

THE geological formation of Mysore is confined, almost entirely, to the most ancient epoch in the history of the earth's crust of which we have any visible and tangible record. This epoch which is known as the Archæan Period, was long anterior to all the great sedimentary formations in which fossil records of the gradual evolution of plant and animal life have been preserved and which are so extensively developed in northern India and in other parts of the world.

Order of succession and relative ages of the formations.

The tabular statement given below shows the order of succession and relative ages of the formations composing the earth's crust amongst which the limited range of the rocks composing the Mysore plateau may be noted.

The thickness shown for each formation is the maximum thickness of the sediments so far as known at present and the figures given here have been taken from the Presidential Address to the Geological Society of London, in 1909, by Professor W. J. Sollas, LL.D., D.SC., F.R.S. The age or duration of the various periods is based on the assumption that the sediments have accumulated at the rate of one foot in a century, and although no great accuracy can be claimed for these estimates, they may be useful as affording some idea of the lapse of time covered by the Geological Record.

No figures are given for the Archæan Period as the rocks have been so altered and disturbed that it is not always possible to distinguish between those of sedimen-

tary and those of igneous origin nor to assign a definite order of succession or definite thickness to the sedimentary members. The period is considered to have been a long one, and it has been suggested that the lapse of time represented by the Pre-Cambrian rocks (including the Archæan) may be equal to that from the base of the Cambrian to the present day—about 25,000,000 years according to the scale given. In the remarks column a few of the salient points in the development of life-forms have been noted opposite the formations in which the earliest fossil representatives have been found.

Archæan character of Mysore rocks.

The fact that the rocks of Mysore are confined to the Archæan and that the development of Land Plants and of the Indian coal-measures took place many millions of years later explains why there is little hope of finding in Mysore those supplies of coal which are so badly needed for the industrial development of her mineral resources.

Area of the Archæan rocks.

The area of the Archæan rocks extends far beyond the boundaries of the Mysore State and occupies about 80 per cent of the whole of Southern India south of latitude 16°.

The remainder of the area—chiefly along the coastal strips—is occupied by rocks of later age, and a brief account of the distribution and history of these later rocks will serve to emphasize the distinction between the geology of the Mysore plateau and that of the coastal regions of the peninsula.

Map showing the distribution of rocks in Southern India.

The general distribution of the rocks of Southern India is shown in the special map included in another volume of this work. This map has been compiled from maps prepared by the Geological Survey of India and from the records of the Mysore Geological Survey.

TABLE OF FORMATION.

Formations	Thickness Feet	Total years	Remarks
CAINOZOIC.			
Recent and Pleistocene ...	4,000		Man.
Pliocene	13,000		
Miocene	14,800		
Oligocene	12,000		
Eocene	20,000		Horses and larger mammals generally.
Total ...	63,800	6,380,000	
MESOZOIC.			
Upper Cretaceous ...	24,000		
Lower do ...	20,000		
Jurassic	8,000		Gigantic reptiles, birds and small mammals.
Trias	17,000		
Total ...	69,000	13,280,000	
PALÆOZOIC.			
Permian	12,000		) Indian coal measures.
Carboniferous ...	29,000		∫ Reptiles.
Devonian	22,000		Land Plants.
Silurian	15,000		Fresh water and terrestrial invertebrates.
Ordovician	17,000		Fishes.
Cambrian	26,000		Marine invertebrates (many highly specialized).
Total ...	1,21,000	25,380,000	
PRE-CAMBRIAN.			
Keweenawan	50,000		
Animikean	14,000		Organic remains doubtful.
Huronian	18,800		
Total ...	82,000	33,580,000	
(ARCHÆAN COMPLEX).			
Laurentian (intrusive) ...	...		) Geology of Mysore
Keewatin, etc. ...	?		∫ practically confined to this period.

II. Post-Archæan Geology of Southern India.

The story of Post-Archæan rocks.

The story of these rocks is fairly well known and has been very lucidly summarized by Sir Thomas Holland in the delightful chapter on the Geology of India in Volume I of the *Imperial Gazetteer of India*. At the close of the Archæan period, Southern India formed part of an extensive land area composed of highly crushed and folded Archæan Rocks. An extremely long period of denudation followed during which these rocks were slowly worn down, the upper covering of Dharwar schists being completely removed in places and the underlying gneisses and granites exposed. In places the sea encroached and permitted the accumulation of a great series of sediments which was subsequently raised to form land, somewhat crumpled in the process. The remains of these sediments, composed largely of shales, sandstones and limestones, now form a patch, about 14,000 square miles in area, in the Cuddapah District—the total thickness being over 20,000 feet. The lower 20,000 feet which includes numerous basic lava-flows and ferruginous jaspers is known as the Cuddapah Series, and this is overlaid unconformably by the Kurnool Series (1,200 feet thick), which is notable chiefly for the occurrence of diamonds in some of the old sandstone and gravel beds at Banganapalle. All of these rocks are unfossiliferous and are regarded as of Pre-Cambrian age and correlated with the Algonkian of North America.

Blank in the geological history of Southern India.

After the formation of the Kurnool series, there is an enormous blank in the geological history of Southern India, extending over many millions of years, during which interval the great Palæozoic sediments from the Cambrian to the Carboniferous were being accumulated in other parts of the world and in India, north of the Peninsula. Of these great formations, in which the

earlier records of the evolution of life-forms are preserved, there is no trace in Southern India which appears to have formed an exceedingly stable buttress of the earth's crust, while other portions of the crust were continually in a state of flux, being alternately depressed below the sea and raised again into dry land many times.

The close of the Carboniferous period.

Towards the close of the Carboniferous period, there is evidence derived from the distribution of land fauna and flora that Southern India formed part of a great continental area extending to Africa and on to South America on the one side and on the other side possibly to Australia. This old Continent, which has been called Gondwanaland, formed a barrier between a southern ocean and a great central Eurasian sea extending from Asia across Northern India, where the Himalayas now stand, into Europe and of which the Mediterranean is a small relic.

Towards the close of the Carboniferous period the geological record is again taken up in Southern India. Denudation had been slowly wearing down the old Archæan and Pre-Cambrian rocks and the larger rivers had gradually worn their valleys down to near their base level of erosion with gradual widening of the valleys and the development of slowly moving rivers and large swampy areas. In these areas large tracts of fresh-water sediments were formed which included the debris of the luxurious vegetation of the coal measures. The result was the accumulation of a considerable thickness of sediments, known as the Gondwana formation—from Permo-carboniferous to Jurassic times—of which various small patches have been preserved along the eastern side of the Peninsula. The lower portion of this formation constitutes the coal measures of India, and in the south the most important patches are those of the Godavari valley which include the Singareni coal field.

The close of the Gondwana epoch.

At the close of the Gondwana epoch, slight alterations in level permitted encroachments of the sea of which records are preserved in small, but extremely interesting, deposits at Trichinopoly, Cuddalore and Pondicherry containing marine fossils of Cretaceous age. After this the record is scanty and uneventful and comprises a few beds of presumed Tertiary age in Travancore, the Cuddalore Sandstones of the East Coast from Vizagapatam to Tinnevelly—of Pleistocene age—and the various recent blown sands, alluvium and soils of the coastal strips.

The end of the Cretaceous period.

As a contrast to this peaceful story, it may be noted that towards the end of the Cretaceous period the old Gondwana continent began to break up and the land connection between Southern India and Africa disappeared under the sea. In the north of India a great series of movements began about the same time, extending into the Tertiary period, which resulted in the gradual rise of the Himalaya and the driving back of the central sea towards its present Mediterranean limits. These movements were accompanied by igneous action on a gigantic scale of which the most striking memento is to be found in the lava-flows forming the Deccan Trap, the remains of which form a horizontal layer covering an area of 200,000 square miles in Bombay, Central India and Hyderabad.

Summary.

In Southern India, therefore, if we exclude the coastal strips, we have an area which is formed almost entirely of the most ancient series of rocks of which any visible record exists, and this appears to have remained uncovered by any more recent formation—and almost without movement—during the whole of the vast period represented by the fossiliferous formations of other parts of the crust of the earth.

With this very brief glance at the Post-Archæan

geology of Southern India we may now turn back to consider the nature of the immensely old Archæan complex as exhibited in Mysore—which comprises an area of about 29,000 square miles—and in doing so we shall endeavour to take the components in the order of their formation, starting with the oldest.

III. The Dharwar System.

The oldest rocks in Mysore.

The oldest rocks recognized in Mysore are the Dharwar schists which appear to possess a close resemblance to the Keewatin formation of North America. In other parts of India certain gneisses and schists—such as the Bengal gneiss and the Khondalites of Vizianagaram—are considered to be older than the great mass of the Peninsular Gneiss and possibly of Pre-Dharwar age. Clear evidence on the latter point is however lacking, and in Mysore no rocks older than the Dharwars have been recognized.

The Dharwar schists.

The Dharwar schists are largely composed of lava-flows, associated igneous intrusions and their crushed representatives. The base of the system is not visible as it has been removed by the intrusion of the underlying granites and gneisses. On lithological grounds the system can be divided into a *lower* and an *upper* division without any perceptible break or unconformity between them. The lower division is composed essentially of dark hornblendic rocks—such as hornblende schist and epidiorite—which are probably metamorphosed basalts and diabases in the form of lava-flows, sills, etc., and very possibly some pyroclastic accumulations. The upper division is more varied and consists largely of rocks characterized by the presence of chlorite, such as greenstones and chlorite schists and less commonly mica-chlorite schists and mica schists. Many of the greenstones still exhibit igneous characters and appear to pass insensibly into chlorite schists. In places the micaceous

members also appear to grade into rocks of recognizably igneous character.

Igneous and other types of the Dharwar schists.

Taken as a whole, the Dharwar rocks afford evidence of very extensive igneous action and many of the more schistose forms can be regarded as highly crushed and altered igneous rocks. Whether amongst the more schistose members there are rocks of sedimentary origin remains doubtful, as clear evidence is wanting, but it does not seem impossible that all of these rocks may have been derived from igneous material by metamorphic action.

Apart from the undoubtedly igneous types and these doubtful schistose types, the system contains a number of other types, the physical and chemical characters of which cause them to stand out more prominently than their actual abundance would otherwise warrant. These are conglomerates, banded-ferruginous quartzites, quartzites and limestones, all of which would usually be regarded as indicative of sedimentary action, and if such action were admitted in the case of these associated types, it would go far towards easing the way for accepting a sedimentary origin for many of the more obscure highly schistose rocks associated with them.

Conglomerates.

The more closely the conglomerates of Mysore are studied the less probable does their sedimentary origin appear to become. In many cases there is satisfactory evidence that they are crush-conglomerates formed in shear zones in the schists or in one of the subsequent gneisses or in both. Other cases which have not been closely studied may still be open to question but, on the whole, evidence favours the view that their origin is autoclastic and not sedimentary.

Banded ferruginous quartzites.

The problem of the banded ferruginous quartzites presents much greater difficulty owing largely to the fact

that their contacts with other rocks are very obscure. Owing to their weather-resisting qualities the adjoining rocks are generally weathered and generally also obscured by a talus of quartzite blocks. Contacts are, therefore, seldom observed, and when found are usually non-committal.

These rocks occur in extensive beds or bands in both the lower and upper division of the Dharwars—being rather more extensively developed in the latter. Frequently folded at steep angles, there is little doubt that they were once practically horizontal. On part of the *Bababudan hills* there is a capping of these rocks which is comparatively horizontal, with moderate undulations, and which is still from 200 to 300 feet in thickness. They are composed mainly of alternating bands of finely granular quartz—sometimes extremely fine—and magnetite. *Hæmatite* is usually present and often increases, to the practical exclusion of magnetite, towards the weathered surfaces. This widely distributed series does not appear to be associated with coarser clastic or sedimentary material such as might be expected to occur if it was formed of ordinary sediments with a tendency to become coarse in the neighbourhood of shore lines. On the other hand, bands of it are found to alternate sharply with undoubtedly igneous material in the shape of basic flows and sills. On account of these difficulties, some American geologists consider that the corresponding rocks in the Lake Superior region were formed in tranquil water, mainly as chemical precipitates, and that the associated lava-flows were sub-aqueous flows. This interesting and ingenious hypothesis would tend to render a considerable proportion of the Dharwar flows sub-aqueous owing to the numerous layers of the banded ferruginous rocks and to the absence of conglomerates and coarse sedimentary material in the intervening zones, such as might be expected to be formed during a change from

sub-aqueous to sub-aerial conditions. On the other hand, if the series is not of sedimentary or chemical origin, it is extremely difficult to find a satisfactory explanation for it on account of the completeness of the metamorphism and the difficulty of finding good contacts. It is not impossible that these banded rocks represent sills of highly ferruginous character subsequently altered to quartz and magnetite or even, in some cases, sills of a quartz-magnetite rock such as will be referred to later in connection with the Charnockite series. Whatever the origin of these rocks, there can be little doubt that their banded character is largely secondary. As to their sedimentary or aqueous character, definite proof is lacking, but the great consensus of opinion is in favour of such a view.

Quartzites.

We may now pass to the quartzites, some of which are practically all quartz, while some are felspathic and some micaceous. There is considerable doubt to what extent these can be regarded as the metamorphosed representatives of sedimentary sandstones. There is a great variety of types and they appear to be of different ages. Many of the beds originally mapped as quartzite have proved on close examination to be altered and silicified quartz-porphyries some of which retain enough of the porphyritic character to be recognizable. Others, entirely quartzose, are occasionally found to exhibit intrusive contacts with adjoining rocks, while others of a later date penetrate the subsequent granitic gneiss and even pass from the gneiss into the schists.

There can be little doubt that many of these quartzites are crushed and re-crystallized quartz-veins and quartz-porphyries, and possibly felsites, and it is at least open to question whether we have any which are genuine sedimentary rocks.

Limestones.

Finally, there are a number of beds or bands of limestone or dolomite which ordinarily would be regarded as of aqueous origin. They are most numerous in the upper chloritic division, and it may be noted that a large number of the greenstone and chlorite-schist beds are characterized by an abundant development of calcite, dolomite, or ferro-dolomite not only in the doubtful schistose members, but also in those which are distinctly igneous. In addition, some of the gneissic granite bands associated with the schists develop calcite which in places becomes extremely abundant. By development of calcite, chiefly at the expense of the felspars, we get a series of rocks which approach limestone, and near by we have limestone bands sometimes very siliceous or chloritic and sometimes comparatively pure. The association is suggestive, though it is not clear that a continuous series has been detected, and possibly the purer limestone bands have been concentrated along fissures or zones of weakness. The proof that these beds have been so formed is naturally difficult, but there is much to suggest it.

Summary.

To sum up, we have in the Dharwar system in Mysore a great series of lava-flows, sills, etc., and their crushed schistose representatives; associated with these are various doubtful schists which are more usually regarded as sedimentary, but which may possibly be igneous. There are also a number of subordinate bands or layers of more distinctly sedimentary habit, such as conglomerates, banded ironstones, quartzites and limestones which are almost universally regarded as of sedimentary origin, but which are regarded in Mysore as probably formed from igneous material by metamorphic and metasomatic changes. In some cases there is strong evidence for this, but conclusive proofs are difficult to find, and many more instances will be required before such a proposition can be stated in general terms.

Ultra-basic intrusives.

Passing now from these components of the Dharwar system, we come next to a series of rocks which may be classed as ultra-basic. These consist of amphibolites —often in the form of actinolite or tremolite schists— amphibole-peridotites, peridotites and dunites with their alteration products potstone, serpentine and magnesite. They appear to be sills, dykes and intrusive bosses in the mass of the schists and are regarded as belonging to the Dharwar system on account of the evidence of their having been cut off and broken up by the subsequent intrusive gneiss. They are of importance for their mineral contents and contain considerable deposits of iron-ore, chrome-ore and magnesite. It is very probable that the Chalk Hills of Salem, which are conspicuous on account of the abundance of veins of white magnesite, belong also to this series.

Other intrusives.

Finally, we have some large intrusive masses of diabasic or dioritic character which appear to be later than many of the rocks already mentioned, but prior to the gneiss and so regarded as of Dharwar age.

At the close of the Dharwar age, the whole of Southern India was covered with a mantle of these Dharwar rocks several thousand feet in thickness, but successive intrusions of granite from below gradually penetrated or ate into the over-lying mantle and this, combined with folding and faulting, caused the lower surface of the mantle in contact with the granites to become a very uneven one. Subsequent denudation for many millions of years removed the greater portion of the mantle of Dharwars, with the result that we now see the underlying granite and granitic gneisses exposed at the surface. The comparatively narrow strips of the Dharwar schists which still remain are but the deeper fragments of the one thick, continuous layer.

Distribution of the Schist Belts.

The total area of the Dharwar schists in Mysore is nearly 5,000 square miles representing approximately one-sixth of the area of the whole State and is distributed mainly as follows:—

(1) *Kolar Schist Belt.*—This is situated near the eastern side of the State in the Kolar District. It extends north and south for about 40 miles, with a maximum width of 4 miles, the total area being about 100 square miles.

It is composed entirely of the dark hornblendic rocks of the *lower* division of the Dharwar schists with some banded ferruginous quartzites close to its eastern and western edges and some bands of amphibolite some of which are intrusive.

The Kolar Gold Fields is contained within a length of 5 miles towards the southern end, and the workings have now gone a vertical depth of over 6,000 feet below surface. 59845

Indications of gold have been found further north at various points, but successful working has not yet been established.

(2) *Chitaldrug Schist Belt.*—This runs through the middle of the State with a N. N. W. trend in the Chitaldrug District, where it has a maximum width of 25 miles, and passes southwards through the Tumkur and Mysore Districts in which it becomes split up into narrow bands finally disappearing a few miles south of Seringapatam. The belt extends north of the State into the Bombay Presidency, the total length in Mysore being about 170 miles and the area nearly 2,000 square miles.

The main portion of the Belt is composed of chloritic schists of the *upper* division, but at the sides and in some of the narrower bands in the Mysore District there are considerable masses of the dark hornblendic schists. Numerous bands of ferruginous quartzite occur throughout the belt and quartzites are abundant in places.

Towards the western side, in the Chitaldrug and Tumkur Districts, are numerous bands of limestone—chiefly magnesian—and numerous bands and patches of iron and manganese ores. The iron ores are mostly soft hæmatites and limonites and the manganese ores are mostly highly ferruginous.

(3) *Hassan Schist Belt.*—Sundry small bands and patches of the older hornblendic schists occur in the Hassan District and are noticeable chiefly for the number of sills, dykes or intrusive masses of amphibolite and peridotite with which are associated iron and chrome ores and magnesite. The better classes of chrome ore and magnesite occur further south in small patches of peridotite and dunite in the Mysore District.

(4) *Shimoga Schist Belt.*—This occupies a large part of the Kadur and Shimoga Districts and extends northwards through the Dharwar District of the Bombay Presidency. In Mysore it is broken up into a number of large irregular patches separated by the later granites and gneisses, the total schist area being between 2,500 and 3,000 square miles. The dark hornblendic schists occur chiefly along the Western Ghats and around the Bababudan hills while the areas around Ubrani, Koppa, Kumsi and Shikarpur consist very largely of chlorite schists and greenstones with some mica schists.

Quartzites of various kinds are abundant and very noticeable, and numerous bands of magnesian limestone occur in the Ubrani, Channagiri and Kumsi schists. Banded ferruginous quartzites are abundant and large quantities of hæmatite and limonite occur along the eastern hills of the Bababudan chain. Gold is widely distributed but the lenses or veins of ore, though often rich, are small and lack continuity, and successful mining has not been established.

Manganese ores are widely distributed in the chloritic schists, but many of the deposits are small. Some

of the deposits, however, are of considerable extent and some 300,000 tons of ore have been mined and exported already. The ore is of fairly high quality and there are also very large quantities of more highly ferruginous ores which cannot be exported or utilized at present.

(5) *Other Schists.*—In addition to the above, small shreds, patches and fragments of the various schists—chiefly those of the lower hornblendic division—are widely scattered throughout the later intrusive gneisses and granites.

IV. Granites and Gneisses.

Preliminary. With this brief notice of the Dharwar system, we may pass on to the subsequent granites and gneisses which now occupy by far the greater part of the whole area.

Champion gneiss. The earliest of these is a comparatively fine grained micaceous gneiss with bands and veins of coarser granite, pegmatite and quartz. It is usually highly crushed and frequently contains zones of conglomerate composed not only of round to sub-angular fragments of the various granitic materials but also patches and lumps of the adjacent Dharwar rocks including the banded ferruginous quartzites. This gneiss was first recognized as a wide band near the eastern edge of the Kolar hornblendic schists into which it intrudes in tongues. Some distance south of the Mysore mine, the gneiss extends across the strike of the schists and then continues southwards near the western edge of the schist belt. From south of the Mysore mines it sends some tongues northwards into the schists which are soon lost on surface, but some of them have been recognized in the deeper workings of the Mysore mine a mile or so to the north of the outcrops. The gneiss is often characterized by the presence of grains or blebs of opalescent quartz, the

colour varying from a slight bluish milkiness to brown or dark grey, and has been referred to as *opalescent-quartz gneiss*. As a less cumbersome name and on account of its intimate and probably genetic connection with the auriferous veins of the Champion *lode* of the Kolar Gold Field, it is proposed to call it, for the time being, the *Champion gneiss*. Other patches of what is believed to be the same gneiss have been recognized more recently in the Shimoga, Chitaldrug and Kadur Districts, and several of these contain or form friction-breccias or agglomerates which at one time were regarded as undoubtedly sedimentary conglomerates.

The Champion gneiss represents a very early period of granitic intrusion into the Dharwar schists. Many of the highly crushed quartz-porphyries or fine granite-porphyries which have been alluded to as occurring in bands among the Dharwar schists also contain similar opalescent quartz-blebs or phenocrysts and may very possibly be genetically connected with this early Champion gneiss. It has been observed, however, that a considerable portion of the Dharwar schists in Mysore is composed of schistose rocks which are the derivatives of the Champion gneiss. So, the Dharwar system should be made to include the Champion gneiss as well.

The remnants of the latter are not very extensive, and there is evidence of their having been intruded and cut off by the next succeeding formation which is the great gneissic complex of Mysore and probably of Southern India as a whole.

Until recently this gneissic complex has usually been regarded as the oldest formation of Peninsular India and the term "fundamental" which has been freely applied to it, has usually carried with it the idea that it is the basement rock on which all the others—including the Dharwars—have been laid down. Detailed work over the

greater portion of Mysore has shown that this is not the case and that this great gneissic complex is everywhere intrusive into the Dharwar schists and the Champion gneiss. It seems desirable, therefore, to avoid the use of the word "fundamental" and as the complex is probably the most extensive formation of Peninsular India, it is proposed to call it the "*Peninsular gneiss.*"

Peninsular gneiss.

This Peninsular gneiss which underlies and intrudes the Dharwar system and the Champion gneiss is a complex of various granites, but so protean that no adequate description can be given here. It is the most extensive and widely distributed rock in the State and is used largely for building and structural purposes. The various granites, of which three are often distinctly recognizable, give evidence of successive intrusion and the fact that the earlier forms contain their own pegmatites which are truncated by subsequent forms, points to a long continued period of plutonic activity. Frequently the various members mingle either by repeated injunction or absorption or crushing and shearing, and we get zones or areas which are highly banded or crushed or with complex flow structure. Other portions are more homogeneous and appear as granite masses. Amongst these latter are some which may be definitely later in age than the gneiss as a whole, but it is often difficult to decide one way or the other.

Evidence of the intrusion of the Peninsular gneiss into the Dharwar schists is abundant and the former bristles, to a variable extent, with lenses, patches, and fragments of the Dharwars chiefly, as might be expected, belonging to the lower or hornblendic division.

It would occupy too much space to enter into any account of the evidences of intrusion or of the contact metamorphism of the schists, and we may pass on to the next formation succeeding the Peninsular gneiss.

Charnockite.

The next formation is itself highly complex, but, thanks to the labours of Sir Thomas Holland, it can be recorded and summarily dismissed with the name Charnockite. It is a huge plutonic complex, characterized chiefly by the presence of hypersthene, in which the alternating bands, frequently steeply inclined, vary from an acid hypersthene-granite through various intermediate forms to hypersthene-norites and hyperstheniteS. These rocks form the great mass of the Nilgiris to the south of Mysore and come into Mysore on its eastern, southern and western borders where they are found distinctly penetrating the Peninsular gneiss, both as tongues and as basic dykes. An interesting addition to the series has been identified in Mysore in the form of dykes or narrow intrusive tongues of quartz-magnetite ore. Gradational forms have been found in which the proportions of magnetite and quartz gradually increase with corresponding elimination of felspar, hypersthene and amphibole, until we get to a rock containing 50 per cent of magnetite, the remainder being quartz with subsidiary amounts of hypersthene and garnet.

Closepet Granite.

The last formation of any considerable magnitude is the Closepet granite. It occurs as a band about 20 miles in width running right through the State in a north and south direction from the southern boundary on the Cauvery river near Sivasamudram to Molakalmuru in the extreme north of Chitaldrug, a distance of over 200 miles. Doubtless it extends much further both north and south into British territory. Topographically it is usually striking, as it forms a great chain of rounded bosses or domes many of which are bare rock and form conspicuous features amongst which may be mentioned the Closepet Hills, Magadi, Shivaganga, Devarayadurga, and the continuation of the chain northwards through the Tumkur and Chitaldrug Districts. Like most of the

plutonics of Southern India it also is complex and is composed of a mixture of red and grey granites, sometimes coarse, sometimes porphyritic, and sometimes so intermingled or deformed as to become gneiss. It intrudes all the previously mentioned formations including the Charnockite. It is probable that other isolated masses in Mysore—for instance, Chamundi Hill and the Arsikere and Banavar masses—may belong to the same age, and it is possible that the ornamental porphyry dykes of Seringapatam may be phases of this intrusion.

This completes the distinct members of the Archæan complex which have been definitely recognized in Mysore,—with the exception of various hornblendic and other basic dykes which need not be referred to here.

Dykes.

Subsequent to the formation and folding of the Archæan complex, the whole country has been traversed by a series of basic dykes —chiefly dolerites—which from their freshness and the absence of deformation are regarded as post-Archæan, and it has been suggested that they may be of Cuddapah (Animikean) age.

Laterite.

The only other rock formation in Mysore is laterite which is of comparatively recent (possibly Tertiary) formation and forms a horizontal capping on the upturned edges of the much denuded Archæans. There is little doubt that it is mainly an alteration product of the underlying rocks, but the subject is too complex and variable to permit of further reference to it here.

Tabular view of Mysore rocks.

The foregoing sequence of events in the history of the rocks of the Mysore plateau may be exhibited in the following tabular statement :—

Possibly Tertiary ...	1. Recent soils and gravels.
	2. Laterite. Horizontal sheet capping Archæans.
Pre-Cambrian (Animikean)	3. Basic Dykes. Chiefly various Dolerites.

Great Eparchæan Interval.

4. Felsite and Porphyry dykes.
5. Closepet Granite and other massifs of corresponding age.
6. Charnockite, Norite and Pyroxenite dykes.
7. Charnockite massifs.
8. Various hornblendic and pyroxene granulite dykes.
9. Peninsular gneiss. Granite and gneissic complex.

Eruptive-Unconformity.

ARCHÆAN	DHARWAR SYSTEM (PROBABLY KEEWATIN)	10. Champion gneiss ... Granite porphyry, micaceous gneisses, felsites and quartz porphyries usually containing opalescent quartz and frequently associated with autoclastic conglomerates.
		11. Upper (chloritic) division. (Green stones and chlorite schists.) Including also:— Amphibolites, peridotites, etc., mostly intrusive. Conglomerates (autoclastic). Banded-ferruginous quartzites; origin doubtful, possibly igneous. Quartzites and quartz schists, mostly intrusive.
		12. Lower (hornblendic) division. (Epidiorites and hornblendic schists). (Unknown.) Limestones: probably secondary. Mica schists: metamorphic igneous. Intrusive masses of dioritic and diabasic character.

V. Earthquakes.

Their occurrence in the State.

Dr. Heyden has remarked that the observations of Indian earthquakes recorded during the past nine years, combined with the past seismological history of India, confirm the conclusion that the Peninsula is remarkably stable. Earthquakes tend generally to be more frequent in the regions of Extra-peninsular India, where the rocks have been recently folded, than in Southern India. Destructive earthquakes of the kind which have recently occurred in Assam (1897) and in the Kangra Valley in the Punjab Himalayas (1905) are altogether unknown in the State. The few that have occurred in it have been of the harmless type. From an inscription at Nelamangala, it appears that an earthquake occurred there in July, 1507. "I felt one at Tumkur," writes Dr. Benjamin Heyne, "on the 23rd of October 1800. It is remarkable that at the same time a violent hurricane

raged along the coast from Ongole to Masulipatam. The shock was felt at Bangalore and in most other parts of Mysore; and it was stronger in the south than where I was. It seemed to come from the north, proceeding southward along the inland range of hills, and to be guided farther by those of which Sivaganga and Savandurga are the most conspicuous." Another earthquake was felt at Tumkur in 1865. Colonel Welsh says with reference to a shock that was experienced at Bangalore in 1813:—"On the 29th of December (1813), we experienced a pretty smart shock of an earthquake, which was very general in its effects all over the cantonment; it was accompanied by a rumbling noise, like a gun-carriage going over a drawbridge, and appeared to come from the westward. Our roof cracked as if a heavy stone had been thrown upon it, and every part of the house shook for some seconds. Some older and weaker buildings were actually shaken down, and the walls of others separated or opened out." Several shocks were felt at Bangalore on the 31st of December, 1881, at about 7 A.M. There was also an earthquake at Bangalore on the 13th April 1882 at 9-30 P.M. In recent years, a sharp shock was felt in Bangalore on the 8th February 1900, in the early hours of the morning, at about 3 hours 10 minutes, Madras time. A sort of rumbling sound was heard and it appeared to proceed from south to north. Houses actually shook for a few seconds, causing considerable alarm to the inmates, many of whom ran out into the streets fearing danger. Another slight shock was recorded in the Bangalore Observatory at 3-13 P.M., Madras time, on the 17th December 1913.

VI. Aerolites.

Recorded instances with details.

Aerolites or meteoric stones sometimes fall. On the 21st of September 1865, at about 7 A.M. one weighing

11½ lbs. fell in a field near Maddur in the Mysore District. About half a mile from the spot where it fell, in another field, another stone fell at about the same time. This was found broken into several pieces. It would appear from the report submitted on this fall that the stones, in both cases, had fallen slantingly from towards the north and not perpendicularly. Just before the fall occurred, a report "just as if a cannon had been fired three times had been heard in the neighbourhood. Also, at the time of the fall, the sky was reported to have been clear with no clouds on it but, it was added, dew had fallen in the previous night. A cultivator who was some 200 yards from where the first stone fell declared that immediately it fell his eyes were closed up from the rush of the smoky dust which had risen from the earth directly after the fall of the stone." The first of these stones is deposited in the Museum at Bangalore. Another stone (a fragment) which fell at Chetnahalli near Challakere in the Chitaldrug District at 10-10 P.M., on the 6th of September 1880 is also in the same Museum. Nothing is known about the chemical composition of these stones.

It may be noted, however, that of every 1,000 meteors, as shown by the observations of Denning, about 30 will be as bright or brighter than Jupiter, and would be called fire-balls. Professor H. W. Pickering notes in his *Popular Astronomy* that four of these 30 will move appreciably slower than the others, while a very minute proportion of the four, reaching the Earth's surface, will be found as stony meteorites. The remaining 996 move in cometary orbits with high velocities, and are not likely to reach the Earth's surface, the occasional one that does so being found to consist mainly of iron and nickel. Statistics indicate that 32 stony meteorites are seen to fall to one of these iron ones. Of the stony ones, perhaps, 10 per cent contain iron in appreciable quantities, and the

remainder are composed mainly of silica combined wi magnesium, aluminium and calcium. They arrive excess in May and June, being otherwise quite uniform distributed throughout the year. The cometary meteor on the other hand, arrive chiefly from July to Novemb inclusive, when the orbits of Jupiter's comets approac most closely. The stony meteorites fall most frequent between 4 and 5 P.M.; cometary meteors are mo abundant after midnight. Seeing that both the fal recorded in the State were in September—*viz.*, betwee July and November as noted by Professor Pickering—th meteors that fell here must be reckoned to be cometar meteors. The time of their fall—one fell at 7 A.M. an the other at 10-10 P.M.—seems confirmatory of this vie

BIBLIOGRAPHY.

Memoirs of the Geological Survey of India, XXVIII, Part 2 (1900).
The Report on Auriferous Tracts in Mysore.
Records of the Mysore Geological Department, Vols. I to XIV.
Reports of the Chief Inspector of Mines in Mysore.
Memoirs of the Mysore Geological Department, Vols. I to III.
Bulletins and Miscellaneous Publications of the Mysore Geological Department.
DR. SMEETH.—Outlines of Geological History of Mysore.

CHAPTER III.

METEOROLOGY.

Introductory. THE details given in this chapter are based on obser tions taken since 1893, the year in which the Mys Meteorological Department was formed, at the f observatories whose geographic co-ordinates and elevati are given in the following table :—

Observatory	North latitude	East longitude	Height abo mean sea-le
Bangalore	12° - 58′	77° - 36′	3,021 fee
Hassan	13° - 0′	76° - 10′	3,149 ,,
Mysore	12° - 18′	76° - 42′	2,518 ,,
Chitaldrug	14° - 11′	76° - 27′	2,405 ,,

The four observatories are situated at approximat the four corners of the State. At present, observati of pressure, temperature, wind velocity and directi cloud amount and rainfall are taken at 8 hours (lo time) only at all the observatories except at Bangal where observations are taken practically throughout t day. Records of observations taken at 10 hours and hours (local time) at the other observatories are a available for some years. Besides these observatori there are 226 rain-gauges (one for about 130 square mil distributed over all the taluk headquarters and impo ant villages—the largest number for all the Indi States. It is in the fitness of things that this should so, seeing that the country is chiefly agricultural character.

The year may be roughly divided into four periods, h having its characteristic weather, *viz* :—

(1) the South-West Monsoon period,
(2) the retreating South-West Monsoon period or the North-East Monsoon period,
(3) the Cold Weather period, and
(4) the Hot Weather period.

The South-West Monsoon bursts at the end of May or ly in June and lasts about 4 months. During this iod are the skies heavily clouded and a steady westerly d blows over the State and the rainfall in the *malnad* ions is continuous and heavy. The retreat of the th-West Monsoon commences early in October and vy rain falls in the eastern parts of the State in a mal year. The wind velocity diminishes considera- and the direction from which the wind blows dually shifts to the East. The North-East Monsoon iod rarely extends to December. The temperature omparatively low from about the middle of December he close of February and the skies quite clear except the thin Cirrus clouds. The hot weather sets in y in March and increases in intensity to the end of y with occasional relief from thunderstorms.

The close of the rainy season in November is marked ense fogs which prevail all over the country during ember and January. They begin about three in the ning and last till seven, when they are dispersed by heat of the sun. But in some parts fogs, or rather ts, follow the earlier rains. Thus about Chitaldrug, n about August to October, the hills are obscured till rly ten in the forenoon.

Temperature.

nough the State is situated in the tropical zone, the ate is equable as the elevation of the major portion he State is over 2,400 feet and no part of the State

is far distant from the sea. The mean temperature the warmest part of the country during the hot month is less than 85°. All the observatories l occasionally recorded temperatures over 100° but thermometer has not risen over 100° on 2 or 3 cons tive days except at Chitaldrug, where the maxim temperature was occasionally over 100° on 5 or 6 co cutive days.

The coldest part of a normal day is about 6 A.M., *i.* little before sunrise, and the warmest part is about 3 The temperature increases rapidly after sunrise till al 8-30 A.M. and at a decreasing rate till about 3 P.M. temperature then falls at first slowly and rapidly at al sunset; later on it falls at a decreasing rate till n sunrise.

The daily range of temperature, *i.e.*, the differe between the maximum and minimum temperat recorded on any day is large during the dry mon *viz.*, December to May and small from June to Novem The range is greatest in March and least in July increases with the height of the station. The values Hassan during March and July are the greatest and least for the four observatories, being respectively 2 and 12°·2. Table II shows the mean diurnal range the various months.

April is the warmest month in the year and temp ture will be high in the early part of May also espec when the usual thunder-showers do not occur. highest average maximum temperature is that Chitaldrug, *viz*, 97°·0 occurring in April and the t perature for Hassan in July, *viz.*, 77°·4 is the lo It is worthy of note that the maximum temperatur Hassan is lower in the months of July and August t in the months of December and January. This is to the fact that the sky will be practically over during July and August. The highest temperat

corded in the State during the past 31 years was 103°·0 Chitaldrug on the 15th April 1901 and 17th April 03. At Bangalore, the maximum temperature was a tle over 100° only on 5 days for the last 31 years and e highest temperature was 101°·1 registered on the th April 1924. Bangalore, situated as it is at a height about 3,000 feet above sea-level, has a climate only cond in attractiveness to that of the Nilgiris. The aximum temperature was 100° four times at Mysore d only once at Hassan. The monthly normals of aximum temperature are given in Table III and the solute maximum temperatures for the various months e given in Table IV.

The coldest months in the year are December and nuary. The lowest temperature on record is 42°·7 gistered at Hassan on the 12th December 1895. The mperature on the coldest day in the year has generally en below 50° at Hassan and the thermometer has not len below 51° at Chitaldrug. During the past 31 years, ly on four nights the minimum temperature at Banga- e was below 50° and it was 50° only once at Mysore. ble V shows the monthly normals of minimum tem- rature and the absolute minimum temperatures for the rious months are given in Table VI.

Rainfall.

The average annual rainfall for the whole State is 5·12 inches ; if stations located near the Western Ghats e not taken into account, the average will be 28·01 ches. The State average for the best year on record as 51·12 inches in 1903 and in the worst year, *i.e.*, 18, the average was 27·91 inches.

(1) *Local Distribution.*—As one passes from the estern Ghats eastwards across the plateau of Mysore, fore hardly covering 50 or 60 miles, he will have passed om regions of evergreen forests and torrential rainfall gregating annually to as much as 300 inches or more

to regions where the annual rainfall will be 25 inches less. The rainfall ranges from 40 to 300 inches ove narrow belt, about 35 miles in width, forming extreme western parts of the Districts of Shimoga, Ka and Hassan. Over the major part of the rest of State, the precipitation ranges from 25 to 40 inc The rainfall for the following tracts is below 25 inches the whole of the Chitaldrug District; the northern the south-western parts of the Tumkur District; eastern parts of Shimoga, Kadur and Hassan Distri the south-eastern parts of the Mysore District; northern parts of the Kolar District and a small trac country in the north of the Bangalore District.

Agumbi in the Shimoga District records the heav total for the year, the average value being 317 inches the years 1896 and 1897, the total for each year 483 inches while it was 438 inches in 1922. In parts the Chitaldrug District, like Nayakanahatti and Dhar pur, the average annual total is only 16 inches and years of drought the annual total may be as little 4½ inches as in 1923.

The average rainfall for the basins of the import rivers in the Mysore State and also for the catchm area of the Marikanive Reservoir (now called Vani V Sagara) is given in the following table. Rainfall outs the State is not taken into account.

Basins of rivers.	*Average rainfall.* Inches
The Cauvery	38·79
The North Pennar	24·76
The Palar	28·20
The Tungabhadra	39·94
The South Pennar	29·68
The Marikanive Reservoir	24·60

In another volume of this publication, will be found map showing the position of the rain-gauge stations

d the distribution of rainfall over the State. Falls er 150 inches and below 20 inches are shown by tual figures. The map is based on rainfall normals tained from official records up to the year 1920.

Seasonal distribution of rainfall.

Very little rain falls during the months of January d February, *i.e.*, the cold weather period, the average r the State being only quarter of an inch; these showers ill be useful in keeping up the pasture supply of the untry. The best years on record for heavy rainfall ring this season are 1901 and 1917 when the average r the State was about one and a half inches.

The rainfall during the hot weather period, *i.e.*, the onths of March, April and May, is usually associated ith thunderstorms, when heavy rains occasionally companied by hailstones are not uncommon. The rong vertical convection currents of air that prevail ring this season cause the phenomenon. The showers at fall during the season are locally known as 'mango owers' and heavy falls of 4 to 5 inches have been corded in a single day in a few stations. The average ecipitation for this period is nearly five and a half ches. The seasonal total may be as much as 8·45 ches as in 1909 and as light as 2 inches as in 1906; e seasonal total for the Mysore District, *viz.*, 7·28 ches, being the highest for all the districts. The rain- ll during this season is of great use for agricultural erations to be made before the onset of the South-West onsoon.

The South-West Monsoon sets in early in June and evails for about four months and a steady westerly nd sweeps across the plateau of Mysore with occasional eaks in its intensity. When the winds are high, the infall is chiefly confined to the *malnad* parts and the ckening of the wind is associated with heavy rainfall the interior. During this season, July is the rainiest

month for the *malnad* tracts and September for the *maidan* parts. In a normal year as much as 22½ inches of rain can be expected during the season. The years in which the seasonal total fell short of the normal by 25 per cent are 1899, 1905, 1918 and 1922, the worst year being 1918 with an aggregate of 11·92 inches; the best year was 1896 when the seasonal total for the State was nearly 35½ inches.

The retreat of the South-West Monsoon commences nearly in October and is generally accompanied with heavy showers in the eastern parts of the State. The season is popularly known as the North-East Monsoon period and prevails chiefly in the months of October and November and occasionally extends to December also, though December is generally a rainless month. The mean seasonal total for this period is 8·17 inches; the bad years on record are—1897, 1899, 1908 and 1923. The last of these years is the worst on record, the rainfall for this period during this year being a little less than 2 inches. The best year on record for this season is 1903, when the average for the State was a little over 15 inches, while the averages for the Bangalore and Kolar Districts were a little over 20 inches.

In Tables VII and VIII, the monthly and seasonal distribution of rain for the various districts are given.

Sunspots and rainfall in the State.

Some relation seems to exist between the rainfall and the number of sunspots though it is not well marked. Years close to the sunspot maxima or minima are periods respectively of comparatively heavy or light rainfall. A few outstanding cases may be mentioned. The year 1878 was one of sunspot minimum and the drought of 1876-77 just preceded it; the year 1923 when very little rain fell over the *maidan* parts was also one of minimum spots. Other years of sunspot minimum were 1889, 1901 and 1913 and the corresponding

years of comparatively light precipitation were 1891, 1899 and 1913. Thus years close to sunspot minimum are anxious periods for the State, especially the *maidan* part of it. During the years 1893, 1906 and 1916 the rainfall was in large excess, the first two being years of sunspot maximum and the last preceded the year of sunspot maximum.

Periodicity in rainfall gauged at Tumkur.

In the earlier records of rainfall at Tumkur Town, a marked periodicity can be observed, though it is not noticeable during recent years. From the year 1846 to 1870, the maximum amount of rainfall occurred every sixth year. The period became one of four years from 1870 to 1886 and from 1893 to 1903 the period was one of five years. No periodicity, however, is to be found in the years following 1903.

Rainfall and droughts in the State.

The years of drought are not separated by any definite interval. The Districts of Kolar, Tumkur and Chitaldrug are more frequently affected by droughts than the other districts. The following table shows the frequency of droughts during the past thirty-one years in the various districts of the State:—

District	Average annual rainfall	Number of years in which the deficiency ranged from		
		15 to 30 per cent	30 to 50 per cent	50 per cent and over
Bangalore	30·95	6	1	0
Kolar	28·21	8	2	0
Tumkur	26·15	9	3	0
Mysore	28·16	6	0	0
Hassan	38·73	6	0	0
Shimoga	56·98	5	0	0
Kadur	73·45	5	3	0
Chitaldrug	21·95	8	1	0
State ...	36·12	5	0	0

It is worthy of note that the deficit ranged from 30 to 50 per cent in the Kadur District during 3 years out of 31 years, but it must be remembered that the annua average for this district is high, *viz.*, 73·45 inches.

Rainfall records are available for some stations in the State for a longer period. The following table gives the liability for drought in one hundred years for some typica stations :—

Stations	Average rainfall	Number of years in a century in which the deficiency ranged from		
		15 to 30 per cent	30 to 50 per cent	50 per cent and over
Agumbi	317·58	15	0	0
Bangalore	35·11	16	5	3
Tumkur	33·30	18	14	2
Sira	20·88	18	14	12
Chitaldrug	24·27	11	13	3
Challakere	18·02	14	8	12
Bagepalli	21·06	13	9	15

Pressure.

Normally pressure is high in the cold and dry months of January and December and low in the months of June and July when warm and humid winds blow over the country. Hourly records of the Bangalore Observatory show that there is a semi-diurnal oscillation in pressure, the times of maximum pressure being about 10 A.M. and 10 P.M. and those of minimum pressure about 4 A.M. and 4 P.M. The pressures at 10 A.M. and 4 P.M. are respectively the highest and the lowest for the day and the difference between these is about one-tenth of an inch, pressure being expressed in inches of mercury; the difference between the day maximum and minimum is nearly double that between the night maximum and minimum. The fluctuation in pressure from day to day rarely exceeds one-tenth of an inch and only once, *i.e*, on the 23rd November 1916, when a cyclone passed over Bangalore, the pressure fell by ·240 inches and

increased by about the same amount the next day. Table IX shows the monthly and annual normals of pressure at 8 A.M. reduced to 32°F.

Wind velocity.

The average wind velocity is less than 150 miles per day though occasionally during the South-West Monsoon the velocity approaches 400 miles per day; velocities less than 20 miles per day have also been recorded. On a few occasions gusts of wind with a velocity of about 40 miles per hour have been recorded in the Bangalore Observatory, but such gusts last only 10 or 15 minutes. During the first three months of the South-West Monsoon period, *i.e.*, from June to August, the average wind velocity is over 170 miles per day; the average for Mysore during this period being over 200 miles per day. Days of very little wind movement are large in the months of October and April. Table X gives the daily normal wind movement for different months of the year.

Humidity.

Air is very humid during the monsoon period, *i.e.*, from July to November and dry from January to April. March is the driest month as very little rain falls during this month; the relative humidity has been as low as 6 per cent on a few afternoons. Normals of monthly and annual values of relative humidity are given in Table XI.

Cloud.

The cloud amount is estimated as follows: if the whole sky is overcast, the amount is denoted by 10 and if it is clear by 0. If 4 is noted against the cloud amount, it means that four-tenths of the sky is covered by cloud. July and August are the cloudiest months in the year and December to April is the period of greatest serenity. March is the clearest month, the normal cloud amount for Bangalore and Chitaldrug being as little as 1·1 and 1·3. Table XII gives the monthly and annual normals of cloud amount at 8 A.M.

Cyclones.

The passage of cyclones over the State is a very rare phenomenon and it usually occurs just about the time of the burst of the South-West Monsoon, *i.e.*, in the month of May or at the time of its retreat, *i.e.*, in the months of October and November. The cyclones that pass across the State have their origin in the south of the Bay of Bengal and pass into the Arabian Sea and occasionally give rise to stormy weather in the sea for some days. The following details give some idea of the cyclones that have passed across the State.

One on the 2nd of May, 1872, was very destructive in its effects; it blew a hurricane that overturned large trees even so far west as Coorg, and was accompanied by a deluge of rain. Again on the 4th of May, 1874, when a cyclone was raging on the Madras coast, a steady rain poured at Bangalore, which continued without intermission for about 48 hours. It had been preceded for several days by a still and hazy appearance of the atmosphere. At the end of November, 1880, just at the beginning of the *ragi* harvest, when but little was cut and the bulk of this most important crop was all but ripe, a great part of the State was visited by a storm of wind and rain of unusual severity, which did very considerable damage to the crops, and was the cause, moreover, of the breaching of a number of irrigation tanks. On the 16th of November, 1885, again, there was a continuous downpour lasting for more than forty-eight hours, but this was not of a violent character. On the 3rd May 1909, a storm was generated off the south coast of Madras in front of a temporary advance of the monsoon current. The disturbance drifted slowly in a north-westerly direction across Southern India and passed out into the Arabian Sea as a storm of moderate intensity. The storm, though not severe, was the cause of heavy rain in South India including the Mysore State. In Bangalore, there was a steady downpour of rain on the

5th continuing from 8 A.M. till past midnight with a break of about 2½ hours in the afternoon. The total for the 24 hours ending 8 A.M. of the 6th, was 6·06 inches, being the heaviest total in one day recorded since 1893. Coming to recent years, a disturbance that appeared in the Bay of Bengal crossed the Madras coast on the evening of the 16th October 1916 and traversing the Mysore Plateau crossed out into the Arabian Sea during the next 24 hours. The rainfall on account of the passage of the storm was particularly heavy in the Mysore District. Again in November of the same year a storm crossed the Coromandel coast near Madras at 2 hours on the 23rd morning causing much loss of life and damage to property. It was central near Bangalore at 8 hours and by the morning of the 24th had passed out into the Arabian Sea. It caused widespread rainfall over the peninsula.

I. TABLE SHOWING THE MONTHLY AND ANNUAL NORMALS OF MEAN AIR TEMPERATURE.

MONTHS	OBSERVATORY STATIONS			
	Bangalore	Mysore	Hassan	Chitaldrug
January	69·9	77·2	69·1	73·3
February	73·9	76·3	72·5	77·5
March	78 3	80·4	77·0	82·4
April	81·5	82·2	79·5	84·7
May	80·5	80·7	77·9	82·8
June	76·0	76·3	73·3	78·2
July	74·1	74·7	71·3	75·3
August	74·1	74·9	71·7	75·3
September	74·1	75·3	72·5	75·8
October...	73·9	75·3	73·0	76·4
November	71·3	73·3	70·5	73·6
December	69·0	71·1	68·1	71 1
Year	74·7	76·1	73·0	77·3

II. TABLE SHOWING THE AVERAGE MONTHLY AND ANNUAL DIURNAL RANGE OF TEMPERATURE.

MONTHS	OBSERVATORY STATIONS			
	Bangalore	Mysore	Hassan	Chitaldrug
January	23·6	23·8	26·3	22·4
February	26·3	25·3	28·1	23·7
March	26·7	26·2	28·8	24·6
April	24·2	24·2	25·7	24·5
May	22·8	22·0	21·6	22·8
June	18·0	16·4	14·3	17·0
July	15·9	15·3	12·2	13·6
August	16·4	16·7	13·9	14·3
September	16 7	17·6	16·2	16·2
October	17·1	17·5	17·4	17·2
November	18·0	17·9	19·3	18·2
December	21·0	21·3	23·6	20·8
Year	20·6	20·3	20·6	19·7

III. TABLE SHOWING THE MONTHLY AND ANNUAL NORMALS OF MAXIMUM TEMPERATURE.

MONTHS	OBSERVATORY STATIONS			
	Bangalore	Mysore	Hassan	Chitaldrug
January	81·7	84·1	82·3	84·5
February	87·0	89·0	86·6	89·4
March	91·7	93·5	91·4	94·7
April	93·6	94·3	92·4	97·0
May	91·9	91·7	88·7	94·2
June	85·0	84·5	80·4	86·7
July	82·1	82·3	77·4	82·1
August...	82·3	82·2	78·6	82·4
September	82·4	84·1	80·6	83·9
October	82·4	84·1	81·7	85·0
November	80·3	82·2	80·2	82·7
December	79·5	81·8	79·9	82·1
Year	85·0	86·2	83·3	87·1

IV. TABLE SHOWING THE ABSOLUTE MAXIMUM TEMPERATURE RECORDED AT THE FOUR OBSERVATORY STATIONS SINCE 1893.

MONTHS	OBSERVATORY STATIONS			
	Bangalore	Mysore	Hassan	Chitaldrug
January	90·5	91·2	89·1	93·0
February	93·5	95·1	95·0	97·0
March	98·3	99·0	97·9	101·0
April	101·1	100·9	99·4	103·0
May	100·8	100·4	100·2	102·8
June	96·6	97·6	93·7	100·2
July	91·1	91·9	88·2	92·3
August	91·9	93·0	86·6	91·0
September	90·7	91·9	90·2	95·1
October	89·3	91·2	88·5	95·9
November	88·3	88·2	86·4	91·1
December	87·5	88·8	87·4	90·1
Year	101·1	100·9	100·2	103·0

V. TABLE SHOWING THE MONTHLY AND ANNUAL NORMALS OF MINIMUM TEMPERATURE.

MONTHS	OBSERVATORY STATIONS			
	Bangalore	Mysore	Hassan	Chitaldrug
January	58·1	60·3	56·0	62·1
February	60·7	63·7	58·5	65·7
March	65·0	67·3	62·6	70·1
April	69·4	70·1	66·7	72·5
May	69·1	69·7	67·1	71·4
June	67·0	68·1	66·1	69·7
July	66·2	67·0	65·2	68·5
August	65·9	66·5	64·7	68·1
September	65·7	66·5	64·4	67·7
October	65·3	66·6	64·3	67·8
November	62·3	64·3	60·9	64·5
December	58·5	60·5	56·3	61·3
Year	64·4	65·9	62·7	67·4

VI. TABLE SHOWING THE ABSOLUTE MINIMUM TEMPERATURE RECORDED AT THE FOUR OBSERVATORY STATIONS SINCE 1898.

MONTHS	OBSERVATORY STATIONS			
	Bangalore	Mysore	Hassan	Chitaldrug
January	48·9	51·7	45·9	52·0
February	51·2	54·1	46·9	56·3
March	52·3	57·9	49·4	61·2
April	58·3	61·3	58·1	59·3
May	61·8	60·4	58·4	59·3
June	59·4	62·0	52·4	63·8
July	61·7	62·8	59·1	62·5
August	61·9	62·0	59·7	64·7
September	59·2	59·3	56·8	63·8
October	56·0	57·4	53·4	59·9
November	52·0	52·6	46·5	51·8
December	43·7	50·0	42·7	51·2
Year	48·7	50·0	42·7	51·2

VII. TABLE SHOWING THE DISTRICT MONTHLY AND ANNUAL RAINFALL NORMALS.

Districts	January	Feb.	March	April	May	June	July
	Inches	Inches	Inches	Inches	Inches	Inches	Inches
Bangalore ...	0 12	0·15	0·40	1·28	4·02	2·62	3·14
Kolar ...	0·20	0·12	0·35	1·00	3·00	2·41	3·18
Tumkur ...	0·09	0·13	0·22	1·10	3·24	2·52	2·69
Mysore ...	0·14	0·16	0·41	1·99	4·88	2·37	2·24
Hassan ...	0·09	0·15	0·29	2·01	4·04	5·38	8·45
Shimoga ...	0·09	0·06	0·25	1·51	2·85	10·99	18·90
Kadur ...	0·14	0·12	0·33	1·88	3·56	13·80	23·93
Chitaldrug ...	0·09	0·12	0·18	0 99	2·63	2·44	2·58
State ...	0·12	0·13	0·31	1·46	3·58	4·79	7·15

Districts	Aug.	Sept.	Oct.	Nov.	Dec.	Year
	Inches	Inches	Inches	Inches	Inches	Inches
Bangalore ...	4·52	6·29	5·55	2·43	0·42	30·95
Kolar ...	3·89	5·77	4·75	3 00	0·54	28·21
Tumkur ...	3·27	5·53	4·91	2·16	0·29	26·15
Mysore ...	2·66	4·38	5·87	2·62	0·44	28·16
Hassan ...	4·81	4·00	5·94	2·94	0·63	38·73
Shimoga ...	10·25	4·87	5 07	1·75	0·39	56·98
Kadur ...	13·59	6·44	6·55	2·46	0·65	73·45
Chitaldrug ...	2·37	4·38	3·59	1 85	0·33	21·95
State ...	5·23	5·18	5·30	2·42	0·45	36·12

VIII. TABLE SHOWING THE DISTRICT SEASONAL RAINFALL NORMALS.

Districts	January and February (cold)	March to May (hot)	June to September (South-West Monsoon)	October to December (N.-E. Monsoon)	Year
	Inches	Inches	Inches	Inches	Inches
Bangalore ...	0·27	5·70	16·58	8·40	30·95
Kolar ...	0·32	4·35	15·25	8·29	28·21
Tumkur ...	0·22	4·56	14·01	7·36	26·15
Mysore ...	0·30	7·28	11·65	8·93	28·16
Hassan ...	0·24	6·34	22·64	9·51	38·73
Shimoga ...	0·15	4·61	45·01	7·21	56·98
Kadur ...	0·26	5·77	57·76	9·66	73·45
Chitaldrug ...	0·21	3·80	11·77	6·17	21·95
State ...	0·25	5·35	22·35	8·17	36·12

IX. TABLE SHOWING THE MONTHLY AND ANNUAL NORMALS OF PRESSURE AT 8 A.M. REDUCED TO 32°F.

MONTHS	OBSERVATORY STATIONS			
	Bangalore	Mysore	Hassan	Chitaldrug
	Inches 26+	Inches	Inches	Inches
January	1·038	1·522	0·914	1·624
February	1·015	1·502	0·895	1·596
March	0·938	1·473	0·872	1·565
April	0·945	1·429	0·827	1·516
May	0·905	1·397	0·796	1·482
June	0·853	1·351	0·740	1·414
July	0·854	1·335	0·740	1·417
August...	0·881	1·385	0·770	1·452
September	0·916	1·408	0·801	1·493
October	0·956	1·445	0·840	1·540
November	0·995	1·478	0·877	1·587
December	1·028	1·513	0·906	1·619
Year	0·948	1·439	0·831	1·526

X. TABLE SHOWING THE MONTHLY AND ANNUAL NORMALS OF WIND VELOCITY IN MILES PER DAY.

MONTHS	OBSERVATORY STATIONS			
	Bangalore	Mysore	Hassan	Chitaldrug
January	135	147	85	102
February	127	125	84	92
March	121	124	93	91
April	113	127	108	90
May	132	159	138	142
June	195	228	176	171
July	194	228	184	184
August...	172	204	160	168
September	132	162	127	138
October	103	116	87	84
November	114	128	86	91
December	129	159	97	110
Year	139	159	119	122

XI. TABLE SHOWING THE MONTHLY AND ANNUAL NORMALS OF RELATIVE HUMIDITY AT 8 A.M.

MONTHS	OBSERVATORY STATIONS			
	Bangalore	Mysore	Hassan	Chitaldrug
	%	%	%	%
January	79	72	73	61
February	71	68	69	53
March	63	69	65	50
April	71	73	69	61
May	75	76	78	70
June	81	80	86	79
July	86	81	88	83
August	86	81	89	83
September	86	81	89	82
October	82	82	83	76
November	79	76	85	68
December	80	75	86	67
Year	78	76	80	69

XII. TABLE SHOWING THE MONTHLY AND ANNUAL NORMALS OF CLOUD AMOUNT AT 8 A.M.

MONTHS	OBSERVATORY STATIONS			
	Bangalore	Mysore	Hassan	Chitaldrug
January	3·2	3·1	3·2	2·2
February	1·9	2·7	2·9	1·7
March	1·1	2·2	2·1	1·3
April	2·8	4·1	3·6	2·7
May	4·3	5·6	4·8	4·7
June	7·6	7·8	7·8	7·6
July	8·6	8·3	8·8	8·7
August	8·7	8·0	8·1	8·2
September	8·0	7·3	7·5	7·6
October	6·2	7·0	6·2	5·5
November	5·2	5·8	5·3	4·3
December	3·8	4·0	3·9	3·0
Year	5·1	5·5	5·3	4·8

BIBLIOGRAPHY.

B. HEYNE. -Statistical Fragments on Mysore, 1800.
B. L. RICE.—Mysore Gazetteer, 1897.
Annual Reports of Rainfall Registration in Mysore.
Administration Reports of the Mysore Meteorological Department.

CHAPTER IV.

BOTANY.

I. Forest Flora.

THE situation of Mysore within the tropics, combined with an elevation which gives it an equable climate, the great variation in rainfall within it and its almost complete environment by lofty mountain chains, are features which contribute to the formation of a rich and varied flora. Richness of the flora.

The reserved forests and plantations of the country cover a total area of 3,685·9 square miles exclusive of District and unclassed forests. Area of forests.

The forest area can be divided into three more or less distinct belts running from north to south. Starting from the extreme west there are :— Forest belts.

(i) *The evergreen belt.*—This stretches along the Western Ghat slopes, with a width varying from 6 to 40 miles, from about the north of Sorab to the south of Manjarabad ;

(ii) *The deciduous belt.*—This is at present the most valuable timber tract and lies to the east of the above and extends more or less continuously from the north of Shikarpur to Chamrajnagar, varying from 20 to 30 miles in width ;

(iii) *Dry deciduous fuel tract and scrub.*—This lies to the east of the central waterparting of the State and runs north to south in two narrow strips.

Each of these types of forests may be further differentiated as follows :—

(*a*) *The moist evergreen belt.*—The pure moist evergreen forest stretches in a narrow strip along the Western

Ghats for over 225 miles from the Jog Falls in Sagar Taluk to Bisale Ghat in Manjarabad. The approximate area of the forest is 1,000 square miles. The tract is mountainous with deep ravines and narrow valleys. Bare grassy ridges with richly wooded valley slopes are the characteristics of this belt; the annual rainfall in this region is about 250 inches. The typical species of trees to be found in this area are:—

Balagi	... Poeciloneuron indicum		
Surahonne	... Calophyllum Inophyllum	...	The Alexandrian laurel
Dhuma	... Dipterocarpus indicus		
Yennemara	... Hardwickia pinnata		
Sataga	... Elæocarpus tuberculatus		
Ranja	... Mimusops Elengi		
Nagasampige	... Mesua ferrea ...	...	Ironwood tree.
Hadasale	... Dichopsis elliptica		
Dalchinni	... Cinnamomum zeylanicum		
Guragi	... Garcinia indica		
Ramanadike	... Myristica magnifica		
Karimarlu	... Diospyros Spp		
Bale	... Diospyros ebenum ...	...	Ebony.

Kiralbhogi (*Hopea parviflora*) is found in some places over extensive areas. Devagarige (*Dysoxylum malabaricum*) and Mangappe (*Toddalia bilocularis*) are found in small numbers. Nandi (*Lagerstroemia lanceolata*) and Hebbahalasu (*Artocarpus hirsuta*) are met with occasionally. The tract is very thinly populated with scattered and isolated hamlets. Except for the few provincial roads that cross the frontier, there are no other roads or means of communication.

The important forests in this tract

The following forests may be mentioned as the most important ones in this tract:

Jog	Agumbe
Govardhanagiri	Balehalli
Kilandur	Narasimha parvata
Varahi	South Bhadra and Tungabhadra, Kabbinale, Bisale, Kemphole and Kagneri.

(*b*) *Mixed belt of evergreen and deciduous forests.*—This is a broader strip of forest about 30 miles broad and

extends from the north of Sorab to the south of Manjarabad through Sagar, Nagar, Tirthahalli, Narasimharajapura, Koppa, Mudgere and Belur Taluks. But for numerous villages and hamlets, large paddy and arecanut tracts, and extensive clearings for *Soppinabettas*, this belt forms one rich stretch of forest with many valuable timber species. Though better than the last, the population is thin. There are rough cart-tracks leading from hamlet to hamlet. The labour supply is scanty. The principal species of trees found growing over this tract are :—

Hunal	Terminalia paniculata
Mathi	Terminalia tomentosa
Nandi	Lagerstrœmia lanceolata
Nerlu	Eugenia Jambolana
Jambe	Xylia dolabriformis
Gandhagarige	Cedrela Toona
Kalgarige...	Chickrassia tabularis
Hebbahalasu	Artocarpus hirsuta
Haiga	Hopea wightiana
Naviladi	Vitex altissima
Holagara	Holigarna Arnottiana
Gobbaranerlu	Bischofia Javanica

Dalchinni (*Cinnamomum zeylanicum*) and Guragi (*Garcinia indica*) and other *kan* species are found only in the shady valleys or ravines called *kans*. Hebbidaru (*Bambusa arundinacea*) is largely found. Occasionally Jalari (*Shorea Talura*) seem to grow in pine crops. Sandal is particularly abundant in this region.

The rainfall is from 60 to 100 inches or a little more.

The following are the important forests in this tract :— The important forests in this tract

Sagar *kan* forests	Ubbur
Bellandur	Aramballi
Mallandur	Kusgal
Masrur	Mallandur gudda
Harohittal	Halasur
Hanagere	Koppa and Mudgere forests.

(ii) *Deciduous teak high forest belt.*—The last named tract gradually merges into this forest belt, in Shimoga and Kadur Districts and along the frontier in Mysore

District and extends from Shikarpur to the extreme end of Chamrajnagar, with a break in Hassan. The average annual rainfall over this portion is from 45 to 60 inches. This is the most valuable strip of teak forests in the State and is about 647 square miles in extent. The most important species is teak; its valuable associates are the following :—

Bete ...	...	Dalbergia latifolia ...	Rosewood tree
Matti ...	...	Terminalia tomentosa	
Honne ...	...	Pterocarpus marsupium ...	Gum-kino tree
Thadsal ...	...	Grewia tiliæfolia	
Dindiga ...	...	Anogeissus latifolia	
Yethega ...	...	Adina cordifolia	

Other deciduous species like Godda (*Garuga pinnata*), Buruga (*Bombax malabaricum*), Sagade (*Schleichera trijuga*), Kadavala (*Stephegyne parvifolia*), Bende (*Kydia calycina*), Nelli (*Phyllanthus Emblica*), Kuli (*Gmelina arborea*), etc., make up the rest of the forest with a dense growth of small bamboo over hill slopes and ridges, big bamboos being confined to the banks of streams and moist low lying tracts.

The principal species attain very good size; teak, bete (Rosewood), yethega (*Adina cordifolia*) and honne (Gum-kino tree) ranging in girth from 10 to 15 feet and matti and other species of girth varying from 8 to 12 feet are very common.

In the outskirts of this belt of forests, there are well populated villages and the forests themselves attain heights averaging about 70', are easy of access with convenient fair weather roads, and equipped with well-designed and comfortable Inspection Lodges, staff and labour quarters.

The important forests in this belt.

The following are the important forests in this belt :—

Karadibetta	Chornayedehalli
Kumsi	Aldhara
Shankar	Muthodi
Sakrebyle	Thegurgudda

Lakkavalli	Kakankote
Dodharuve	Begur
Mavukal	Ainur-marigudi
Katchuvanahalli	Berambadi
Veeranahosahalli	Bandipur
Mettikuppe	Chamrajnagar

Deciduous teak pole belt.—The strip of forest which extends from Anavatti in Sorab to Chamrajnagar is similar in composition to the above, but the growth is very poor, the trees not attaining a girth of more than about 4 feet anywhere. The average rainfall varies from 30 to 35 inches and the crop is open with an undergrowth of grass. The forest yields small timber. The total area of this type of forest is about 262 square miles. The major portion of this belt of forest has all conveniences in the matter of roads and labour. The principal forests that may be enumerated under this type are :—

Kowdi	Thyagadabagi
Chandrakal	Portions of Veeranabhsahalli and Mettikuppe.
Kunchenahalli	Katwal
Kukwada-u brani	Naganapur
Antargange	Bargi and portions of Chamrajnagar.
Bhadrapur	
Hadikere	

(iii) *Dry deciduous fuel forest.*—This may also be divided into two definite strips of forests on account of certain characteristic differences.

(*a*) *Superior type of fuel forest.*—This strip starting from about the south-western limits of Davangere Taluk extends to the north of Channapatna. Towards the east, it extends to the provincial boundary of the State in the Bangalore and Kolar Districts. The average rainfall over this tract varies from 25 to 30 inches. The principal species to be found are :—

Kaggali	... Acacia Catechu	...	... The Cutch tree
Devadari	... Erythroxylon monogynum		
Chigare	... Albizzia amara		
Channangi	... Lagerstroemia parviflora		

Dindiga	...	Anogeissus latifolia	
Jalari	...	Shorea Talura	
Hunnal	...	Terminalia paniculata	
Some	...	Soymida fabrifuga	... The bastard Red Cedar.
Banni	...	Acacia ferruginea	
Karijali	...	Acacia arabica	
Bilijali	...	Acacia leucophloea	
Padarapachali		Dalbergia paniculata	
Tubre	...	Diospyros Tupru	
Yeje	...	Premna tomentosa	
Kodlimuruka		Acacia Spp	
Yelachi	...	Zizyphus Jujuba	

Small bamboos are found in a few of these forests. These forests are generally surrounded by numerous thickly populated villages. There is generally heavy demand for firewood and grazing.

(*b*) *Inferior type.*—This is confined chiefly to the northern portion of Chitaldrug and Tumkur Districts. It extends through Davangere, Jagalur, Molakalmuru, Challakere, Hiriyur, Sira, Pavagada and Maddagiri Taluks. It is a dry arid forest tract, with very low rainfall, 15 to 20 inches. The growth is very poor. The characteristic tree growth is Kamara (*Hardwickia binata*) with a little Kaggali (the Cutch tree) and other inferior and scanty growth and Bode grass not yet identified for its under-growth.

Shrubs and bushes.

Among shrubs and useful bushes are:—

(1) Calotropis gigantea	...	Giant swallow wort	... Yekka
(2) Cassia auriculata	...	Tanner's bark ...	... Thangadi
(3) Cassia Fistula ...	...	Indian laburnum	... Kakke
(4) Jatropha Curcas	...	Physic nut ...	... Maraharalu

Sandal.

(*a*) *Its distribution.*—The sandal tree (*Santalum Album*, Vern: *gandha, Srigandha*) a tree the habitat or natural home of which is Mysore and which grows only to a limited extent in the bordering tracts of Madras and Coorg, is found throughout the State but very unequally distributed in different parts. It is never met with in

the evergreen belt but is most abundant in the semi-moist belt, in the Taluks bordering on the Cauvery and in those lying along the chain of hills which runs from Kankanhalli up to Maddagiri. In the Chitaldrug and Kolar Districts, it occurs to a limited extent, chiefly scattered in village lands and hedge-rows and in special plantations and forests introduced by the Forest Department.

(*b*) *Its growth.*—The tree attains its greatest bulk and height in taluks with a moderately heavy rainfall. The bark and sapwood have no fragrance, but the heartwood and roots are highly scented and rich in oil. The girth of a mature tree varies, the average being about 30″, while trees of girths up to 6 feet are occasionally found. Heights up to 40′ have been measured, though the average height is not more than 25′. The tree is considered to be mature when about 60 years of age. The older the tree, the greater the proportion of heartwood. The bark becoming deeply wrinkled, is red underneath, and frequently bursts, disclosing in old specimens the absence of all sapwood. In colour and marking, four varieties of the wood are distinguished:—*bili*, white; *kempu*, red; *naga*, cobra; and *navilu*, peacock. The names indicate the supposed resemblance of the marks, which are really "caused by the death of adventitious buds." The heartwood is hard and heavy, weighing about 61 lbs. per cubic foot.

(*c*) *Its Propagation.*—Efforts for the propagation of sandal by planting did not meet with much success some years ago, owing to the delicate nature of the young plant and its exposure to the ravages of hares and deer. More recently, the *lantana* shrub, which grows with the rankness of a weed, has been found to be an effectual nurse for the seedlings coming up naturally in abundance. Sandal sown up has given fairly good results.

(*d*) *Spike disease.*—This serious disease of sandal was first reported from Coorg, near the Coorg-Mysore

boundary in 1898. Since that time, it has spread across Mysore District to the Eastern border and has made its appearance in the neighbouring Districts of Madras Presidency. It has also spread into Hassan and Bangalore Districts. It has been estimated that the annual losses from this disease amount to between Rs. 5 and 6 lakhs.

A considerable amount of scientific investigation of this disease has been carried out, more especially by the Mysore Agricultural Department, and the Forest Officers in Mysore, Madras and Coorg heve studied it extensively in the field. Although the disease has been communicated to healthy trees by graft experiments, the causes of the disease have not yet been found out. The work of investigation is being organized and the appointment of a special scientific officer to aid in this work has been sanctioned by Government.

A reward of Rs. 10,000 has also been offered by the Government to any one who discovers the cause of the spike disease and suggests an effective, cheap and easily applicable remedy for the eradication of this disease.

II. Horticulture, Etc.

General. The climate of Mysore is very favourable to horticulture. With judicious treatment, plants of all climates may be successfully grown at Bangalore. Horticulture has made great progress, as may be judged from a visit to the Palace Gardens in Mysore and Bangalore maintained by His Highness the Maharaja, the public gardens maintained by the State at Bangalore, Mysore, Seringapatam and the Nandi Hills and the horticultural activity displayed by the public.

The Lal-Bagh. The Lal-Bagh is the oldest and most important of the public gardens. It contains a fine collection of plants

and trees rarely seen in India in such large specimens. The collection is being periodically replanted or added to according to natural orders and with regard to geographical distribution.

Indian fruits and a large variety of English fruits are grown in the vicinity of Bangalore. The following are the more important fruit trees grown in the gardens :— Fruit trees.

Anacardium occidentale	Cashew-nut	Geru
Anona reticulata ...	Bullock's heart	Ramphal
Anona squamosa ...	Custard apple	Sitaphal
Artocarpus integrifolia	Jack ...	Halasinamara
Averrhoa carambola	Carambola ...	Kamarak
Carica papaya ...	Papay	Perangi
Citrus aurantium ...	Orange ...	Kittale
Citrus decumana ...	Pumelo ...	Sakote
Citrus medica ...	Citron ...	Madala
Citrus medica var acida	Lime ...	Nimbe
Citrus medica var limetta	Sweet lime	Gaja nimbe
Citrus medica var limonum	Lemon ...	Herile
Cocos nucifera	Cocoanut palm	Tenginamara
Eriobotrya japonica ...	Loquot ...	Lakote
Eugenia jambos ...	Rose apple ...	Pannerale
Ficus carica	Fig ...	Anjura
Mangifera indica ...	Mango	Mavinamara
Musa sapientum ...	Plantain	Bale
Phyllanthus distichus	Star-gooseberry ...	Kiri nelli
Phyllanthus emblica ...	Emblic myrobalan	Nelli
Psidium guyava ...	Guava	Shepe
Punica granatum ...	Pomegranate ...	Dalimbe
Pyrus malus	Apple	Sevu
Vitis vinifera	Vine	Drakshi
Zizyphus jujuba (Bhere)	Bere	Elachi
Eugenia malaccensis ...	Malay Rose apple	Sime pannerale
Nephelium Litchi ...	Litchi	Kannuguddehannu
Pyrus communis ...	Pear	Perukai
Rubus lasicarpa ...	Raspberry	Rajabari
Achras sapota	Sapodilla	Sapodilla
Anona muricata ...	Soursop Peaches	Mulluduranji

Washington Navel orange, introduced from Australia, is becoming a favourite in gardens. The best oranges are those imported. Of mangoes, there are many varieties Plantains are plentiful and some varieties are esteemed for their sweetness and flavour.

Vegetables

There is a large number of gardens in Bangalore and Mysore which supply the market with a rich assortment of both English and Indian vegetables. The chief among them are beans, soybeans, tomatoes, cabbages, cauliflower, knol-khol, pumpkins, gourds, cow-gram, moringa fruit, brinjals, country greens, sweet potatoes, radish and chow-chow. The potato and the onion are grown on a large commercial scale. Leaves of vegetables and roots fit for *curries* are also grown.

Grasses.

Of grasses indigenous to Mysore, the following are fit for stacking :—

(1) Garike (Cynodon dactylon)
(2) Ganjalu garike (Andropogon Bladhii)
(3) Hanchi (Aristida caerulescens)
(4) Karda (Andropogon pertusus)
(5) Dharbhe (Eragrostis cynesuroides)
(6) Phara or Mani
(7) Uppala,
(8) Sunti (Panicum repens)
(9) Node
(10) Solali
(11) Marahullu

The following are not good for stacking, as they grow mixed together :—gondyada or chenlagam, bhimam, bidiru-yele, yenuamatti, bili-hullu, timmattakam, naribala, akki-hullu, hire.

There are also certain plants or herbs which are of great use to cattle ; the best of these is called *purtanipuli* which has seeds like burrs, with a thick joined sappy stem. It grows along the ground, and is very good for milch cattle.

Imported fodders.

Among the imported fodders, lucerne (*medicago sativa*), Guinea grass (*Panicum jumentorum*) and Rhodes grass (chloris virgata) are largely cultivated.

III. Crops.

Classification of the principal crops.

The principal crops raised in the State may be classified briefly as follows :—

(*a*) Wet, or those that are dependent for their

growth on irrigation, in addition to timely rainfall, *viz* :—

Oryza sativa	Paddy	Bhatta, nellu	
Saccharum officinarum ...	Sugar-cane	Kabbu	
Triticum Sativum	Wheat	Godhi	

(*b*) Dry, or those which do not require irrigation generally but are dependent entirely on seasonal showers of rain, *viz* :—

Elousine Corocana	Ragi	Ragi	
Sorghum vulgare	Great millet ...	Jola	
Cajanus Indicus	Pigeon Pea, Dhal ...	Togari	
Cicer Arietinum	Bengal gram, Chik pea.	Kadale	
Dolichos biflorus	Horse gram ...	Hurali	
Dolichos lab lab	Cow gram ...	Avare	
Phaseolus Mungo	Green gram ...	Hesaru	
Phaseolus Mungavar	Black gram ...	Uddu	
Phaseolus radiatus			
Sesamum Indicum	Sesame, gingelly ...	Wollellu, Achellu	
Ricinus communis	Castor	Haralu	
Gossypium Herbaceum ...	Cotton	Arale	
Nicotiana Tabacum	Tobacco	Hogesoppu	

(*c*) Garden crops, or those which require a moist situation and an adequate supply of water :—

Areca catechu	Arecanut	Adike	
Musa Sapientum	Plantain	Bale	
Cocos Mucifera	Cocoanut	Tenginakayi	
Elettaria cardamomum ...	Cardamom ...	Yelakki	
Arachis hypogaea	Groundnut ...	Kallekayi, nela kadale	
Capsicum annum	Chilly	Mensinakayi	
Allium Cepa	Onion	Nirulli	
Allium Sativum	Garlic	Bellulli	
Carum copticum	Bishop's weed ...	Oma	
Carthamus Tinotorium ...	Safflower	Kusumba	
Coriandrum Sativum ...	Coriander	Kottambari	
Curcuma Longa	Turmeric	Arisina	
Trigonella Foenum graecum ...	Fenugreek	Mentya	
Zingiber officinale	Ginger	Sunti	
Cumimum cyminum	Cummin seed ...	Jirige	
Piper beetle	Betel vine	Viledele	

Mulberry (*Morus indica*) is cultivated both in garden lands and dry lands. Coffee (*Coffea Arabica*—Bundu kapi) is a miscellaneous crop grown in the Malnād regions of the Kadur and Hassan Districts.

In the *Season and Crop Report*, the crops are classified as:—

(*a*) Foodgrains comprising rice, ragi, wheat, millet, pulses,
(*b*) oil-seeds, comprising mustard and rape and gingelly,
(*c*) condiments and spices,
(*d*) sugar-cane,
(*e*) fibres including cotton and jute,
(*f*) dyes,
(*g*) drugs and narcotics comprising coffee, tobacco, etc.,
(*h*) fodder crops,
(*i*) orchards and garden produce and
(*j*) miscellaneous.

Industrial and Commercial crops.

The principal industrial and commercial crops grown on a fairly large scale in the State are sugar-cane, coffee, cotton, cocoanut, arecanut, mulberry and oil-seeds.

IV. Avenue Trees and Topes (Arboriculture).

Avenue trees.

Along the public roads, avenue trees have been planted. The trees have been numbered, and vacancies are filled up and additions made annually.

Topes.

Almost every village and many of the wealthy raiyats have topes or groves in which trees valued for their timber, fuel, shade or fruits are grown.

BIBLIOGRAPHY.

B. L. RICE.—Mysore Gazetteer, 1897.
Commercial Guide to the Forest Economic Products of Mysore, 1917.
G. H. KRUMBIEGEL, F.R.H S.—Mysore, its Horticulture and Gardens in "Mysore" in the "Ruling Chiefs of India" series.
J. CAMERON.—Forest Trees of Mysore and Coorg.
Annual Administration Reports on the Working of the Government Gardens and Parks.
Annual Administration Reports on the Working of the Agricultural Department.
Mysore Season and Crop Reports.

CHAPTER V.

ZOOLOGY.

I. Introduction.

Introduction.

THE plateau of Mysore, surrounded practically on three sides by mountain ranges, is diversified by certain well-known physical characteristics. The Malnād tract which includes Shimoga, Kadur and Hassan Districts, is an undulating country with open valleys, covered by heavy forests and hills which now and then rise into bare crags in the higher altitudes. The level plains, which constitute at any rate the greater part of the Maidān, derive their character from the means of water-supply and the nature of the soil determining the cultivation. The fauna of the country lying west of the line drawn roughly from Shikarpur to Periyapatna which fairly comprises the Malnād, is both in richness and variety, comparable with that met with in Malabar and Travancore. In fact, the Western Ghats and the parallel ranges in South Kanara and Mysore, together with those picturesque forest-clad spurs, harbour practically all the animal life that is of interest to the sportsman and the scientist in South India. There are many points of similarity between the animals occurring in these parts and those found in the south-western regions of Ceylon and they both differ considerably from those found in the northern portions of the Peninsula. It must be remarked, however, that even in the southern parts of India, animal life is by no means uniform and in a tract of country like Mysore, with its sharply contrasted physical features, the difference in the occurrence and abundance of animal life is greatly emphasized. It would be impracticable, were it even

desirable, to deal in great detail with even the known forms in a chapter such as this and therefore nothing more is attempted here than to offer a few brief remarks on the vertebrate fauna of Mysore.

II. Mammals.

Mammals are warm-blooded hairy animals whose main characteristic is the possession by the female of milk glands. They occupy the highest place in the animal kingdom, chiefly by the superior organization and complexity of their brain structure. The occurrence of a delicate series of bonelets for transmission of sound to the internal ear at once marks them out from birds and reptiles. The small number of bones which make up the lower jaw and its more compact attachment to the skull, giving greater biting power, would be other distinguishing qualities. The classification adopted by W. T. Blanford as revised by R. C. Wroughton, Thomas and Hinton is followed in this chapter.

Family *Cercopithecidæ.*

The monkeys occurring in Mysore belong to the two genera, *Macáca* and *Pithecus* and perhaps number about half a dozen species. The Lion-tailed Monkey (*M. ferox Schr.*, the lion-tailed monkey of Jerdon and the Wanderoo of Buffon) is an inhabitant of the unfrequented parts of the dense jungles, reaching considerable elevations on the Ghats. Its savage disposition, an elongated snout, great power of teeth and tufted tail, which account for its popular name, make it resemble the Baboon, from which it differs, however, externally by its black coat and a grey beard and ruff. The Bonnet Monkey (*M. sinica L.*) frequents not only the dense jungles, but also populous towns and villages, where it raids fruit and grain shops. This monkey which is easily distinguished by its flesh-coloured face and ears and radiating hair on the crown, is frequently trained by itinerant beggars to perform various

tricks. For general intelligence and power of mimicry, it is excelled only by its northern congener, the Bengal Monkey (*M. rhesus And.*) which has not been reported south of Bombay and the Godavari. The members of the next genus (*Pithecus*) which constitute the Langurs or Hanuman Monkeys, are easily distinguished from the foregoing by their slender build and absence of cheek-pouches. The common South Indian Langurs or Hanuman Monkeys (*P. entellus ancnises Blyth.*) have a black face, ears and soles—characteristics somewhat inconsistent with the sanctity in which they are held. It is interesting that very young babies have a flesh-coloured face which darkens with increasing age. Their favourite haunts are the far-off groves near villages, high trees on the banks of streams and rocky hills. They are looked upon by sportsmen like friends as they give a warning cry on the approach of tigers and panthers. The other Langurs reported to occur in the State are the Madras (*P. priam Blyth.*), Malabar (*P. hypoleucos Blyth.*) and the Nilgiri (*P. johnii Fischer*) Hanuman Monkeys. In the case of the first species, the hair on the hind part of the crown is drawn out into a crest and the hairs on the brow form a fringe; these characters are lacking in the Malabar Langur. The Nilgiri Hanuman Monkey has a black silky coat except on the head and nape, which are fulvous. All of them, as a rule, are extremely wary and shy and are confined to the higher altitudes in the dense woody districts bordering on the Western Ghats and the Nilgiris.

Family *Lemuridæ.*

The *prosimiæ* or Lemurs are represented in Mysore by the *Loris*, which is peculiar to South India and Ceylon. The members of this family are distinguished from the true monkeys by certain well-known anatomical peculiarities, all of which indicate a low grade of organization among the primates. The upper incisors in all Lemurs are

divided by a toothless gap and there is a claw instead of a flat nail on the second digit of the foot. The tail is usually wanting. The Mysore Slender Loris (*Loris lydekkerianus Cabr.*) known from the maidan districts also extends into Coorg. This little animal is entirely nocturnal and arboreal in its habits and its food consists of insects, birds' eggs and small reptiles and in confinement, takes cooked rice and bananas. The Mysore Lemurs are said to mimic the spotted owl (*Athene brama*) in so far as their cry resembles the screechings of the latter. The Slender Loris (*L. malabaricus Wrought.*) has been known from S. Coorg and its occurrence in Mysore is more than probable.

Family *Felidæ*.

The cats are the most specialized among the carnivora, possessing a rounded head, retractile claws and a flesh tooth in the jaws. Among the larger cats are the lion and the tiger. There is no record of the lion ever having been found in the State, though if Mysore architecture is to be believed, it should have been familiar to people in it. The tiger, at one time, must have been more largely found. The killing of a tiger by Sala, the founder of the Hoysala dynasty, by thrusting a rod in its mouth is, perhaps, the most popular tale in all Mysore. The fact that every Hoysala temple has this feat represented on it and every Hoysala coin had it on its obverse shows that the figure of the tiger as an emblem was thoroughly appreciated. Man-eaters are even now to be met with occasionally in the districts of Mysore, Shimoga and Tumkur. The indiscriminate slaughter of the tiger (*Felis tigris L.*) by sportsmen is causing its disappearance from the Indian jungles and for fear of total extinction the animal is now protected by law. The improved means of communication and the clearance of jungles around villages, no less than the decline in the population of tigers within recent times, must account for the

comparative immunity now enjoyed by the country sid from the attentions of the man-eaters. There is a mas of fact and legend inseparably mixed up about the habit of tigers in general. Cattle-lifters and man-eaters whic are the boldest and most cunning of their race, mus have nearly depopulated villages in the backwoods befor the introduction of fire-arms, and from the view-point o dwellers in such localities, the game-killers are the rea friends and helpers of man, in so far as they keep dow herds of deer and wild pig which would otherwise destro much crop. The panthers or leopards (*F. pardus L.*) are very common in Mysore, more especially in the dis- tricts of Mysore, Shimoga and Kadur, and certainly com after the tiger in point of power of offence or relative proportions. As regards cunning and courage, or excita- bility of temper and destructiveness, they easily occupy the first rank among the beasts of prey. They come more frequently in collision with man as they live in close vicinity to his habitations, to sally forth in the dark to seize cattle and other animals. The number of cattle killed by tigers and panthers is perhaps heaviest in the districts of Shimoga, Kadur and Mysore.

The panther varies between wide limits, some at any rate of the differentiating characters being due to age. It is not uncommon among Indian naturalists to recog- nize two forms, the larger with a shorter tail, a longer head and broad rosettes on a paler ground colour; the smaller possessing the opposite characteristics. In addi- tion to these varieties, if they are really so, we have the black panther in Mysore, where it is confined mostly to the wooded tracts. In the Mysore menagerie, the black and the ordinary forms are confined in the same cage, obviously to induce interbreeding. There is, however, evidence to prove that the process of cross-breeding takes place in Nature. Till some other distinguishing anato- mical quality than mere colour is forthcoming, the

melanoid individual ought to be content with the humbler rank of a variety in *systema Naturæ*. The leopard cat (*F. bengalensis Kerr.*) known from Coorg and possibly Mysore also, is far too fierce for its size, the length of body (excluding the tail) being only 26 inches, and indefinitely maintains a savage disposition. In the menageries, as in Mysore, it is never seen pacing the cage after the manner of the bigger cats, but will spend practically all the days of its life crouching in a corner or on a window sill. Living by day time in the holes of trees or under stones in dense jungles, it issues forth in the evening to commit depredations on the poultry and small mammals near about the villages. The colour markings of this cat are variable. The rusty spotted cat (*F. rubiginosa Geoff.*) is somewhat smaller than the domestic cat, and according to Jerdon is tameable. Its occurrence in Mysore is doubtful. The only other jungle cat reported from Mysore is the common Indian species (*F. affinis Gray.*) frequenting jungles and open country. It is partial to game like hares and partridges, occasionally destroying poultry also. In respect of the long hairs at the tips of their ears, they come nearer to the Lynx. The hunting leopard or cheeta (*Acinonyx venaticus Gray.*) which may occur as a straggler in Mysore, is usually distinguished from the panther by the non-retractile or only partially retractile claws and a slender long legged body. The spots are smaller and solid. When tamed, it becomes perfectly docile like a dog and has the canine instincts of attachment and obedience to its master. In Northern India, it is widely employed in hunting down antelopes, gazelle and nilgai, which it can easily overtake by its remarkable speed for short distances. Buchanan Hamilton gives an interesting account of the manner of hunting with the cheeta, which he gathered in a conversation with Sir Arthur Wellesley, who, while Commanding Officer at Seringapatam, had kept five of these

hunting leopards which had formerly belonged to Tippu Sultan.

Family *Viverridæ.*

The small Indian civet cat (*Viverricula malaccensis Gmel.*), the Indian toddy cat (*Paradoxurus niger F. cuv.*), the common Indian mongoose (*Mongos mongo mungo Gmel.*) and (*Mungo Ellioti Wrought*), differ from the foregoing family in having an elongated snout, non-retractile claws, and more teeth in the hinder part of the jaws. The body is slender and elongated, an adaptation for an arboreal and burrowing mode of existence. The Indian civet cat, kept in confinement by the Indians, secretes the well-known perfume in its preanal glands, which enters largely into the cosmetics of the Indian toilet. In its native haunts of detached woods and copses, it may be seen wandering both by day and night in quest of field rats, squirrels, and birds' eggs. The Indian toddy cat, also known as the palm-civet, whose favourite residence is the palm or mango grove, frequently establishes itself in the thatched roofs of houses. It derives its popular name from its alleged fondness for palm juice. According to Jerdon, "it has a keen sense of smell, but less acute hearing and vision by day than the mongooses." There are three species of mongoose in Mysore (*M. Mungo mungo Gmel., M. fuscus Waterh. and M. vitticolis Benn.*); some at any rate are common in hedgerows, thickets and cultivated fields. The supposed immunity of this animal from snake poison is simply due to its extreme agility.

Family *Hyænidæ.*

There is only one representative of the family of *Hyænidæ* in India and its occurrence is mainly confined to the drier districts. Hyænas form a sort of connecting link between the cats and the civets and have a canine look about them. Though universally detested for their extreme cowardice and cruelty, these animals are serviceable as carrion feeders.

The dog tribe includes the common wolf (*Canis naria Wroughton.*), the Indian jackal (*Canis indicus Hodgs.*), the wild dog (*Cuon dukhunensis Sykes.*) and the fox (*Vulpes bengalensis Shaw.*). These animals, which inhabit the Malnād tracts, are known for their remarkable intelligence and cunning which they must have acquired through habits of communal life. The jackal and the fox occasionally turn their attention to a vegetable diet and under its influence may destroy wide areas under cultivation, chiefly of coffee, ground-nuts, sugarcane and horse gram. The wolf and the wild dog which hunt in packs are most destructive to game like sambar, antelope, spotted and barking deer. Family *Canidæ.*

The martens which constitute the family of *Mustelidæ* differ among themselves both in external conformation and the character of teeth far more perhaps than is the case in any other family of carnivora. The South Indian marten (*Martes gwatkinsi Horsf.*) found in tolerable numbers in the hill forests of the Nilgiris and on the Western Ghats may cross the British frontier into the adjoining tracts of the Mysore territory like its congener the common otter (*Lutra lutra L.*). The latter is very destructive to the mahseer and other fish in the large rivers and tanks. It is possible that the clawless otter (*Aonyx cinera Illig.*) which has been reported from Coorg by the Mammal Survey Party, may occur in the confines of Mysore hills also. Both otters are gregarious and live in burrows, on elevated grounds, near water. Family *Mustelidæ.*

The sloth bear (*Melursus ursinus Shaw.*) occurs in large numbers in the State and like other game is protected now. The deep cavities formed by blocks of granitoid gneiss that weather on the hill sides are the favourite resorts of bears, whose food consists of fruits, both wild and cultivated, insects and honey. Tickell observes that Family *Ursidæ.*

the power of suction in the bear as well as of propelling wind from its mouth is very great and is advantageous to the animal in procuring its common food, the white ants.

Order *Insectivora.*

The insectivores are a very primitive race of mammals, whose small size and nocturnal habits, must have helped their survival from past ages. The large number (44) of generalized teeth and their trituberculate character point to their antiquity. The Madras tree shrew (*Anathana ellioti Waterh.*) resembles squirrels and inhabits trees. The South-Indian hedgehog (*Erinaceus micropus Blyth.*) whose occurrence in Mysore is doubtful, may perhaps wander into its confines from the borders of the British districts—Coimbatore and the Nilgiris. The shrews are well represented in Mysore. The brown shrew (*Pachyura murina L.*) is an inhabitant of the woods and occasionally turns up in human habitations nearer their haunts. The grey musk-shrew (*P. cœrrulea Kerr.*) is not reported away from human dwellings, where sometimes it is seen in day time running close to the walls, making a peculiar squealing metallic sound. It is quite serviceable in the house where it lives on cockroaches, scorpions, and other vermin and the charge brought against this animal of feeding on grain and vegetables is baseless. Its usual haunts are the dark corners of book shelves, almirahs and boxes, frequently entering holes also. The strong musky smell, characteristic of the domestic forms, is objected to by cats, who do not molest them. Very little is known about the habits of the other shrews (*P. perroteti Duvern.*) whose occurrence in Mysore is doubtful.

Order *Chiroptera.*

Bats are flying mammals and are most easily identified. The elongated fingers and forearm include an expansion of the skin which also involves the hind limbs and the

tail. The knee is directed backwards. The sense of touch is developed in these animals to an incredible degree of perfection and is probably exercised by the nose frill, the tragus of the ears and the wing membrane as well. On the ground they are helpless, shuffling along awkwardly and when at rest they hang head downwards, clutching by their hind feet branches of trees, crevices and holes in old walls and caves. Like the primates, the female bats have only two pectoral teats. The Indian fruit-bat or flying fox (*Pteropus giganteus giganteus Brunn.*) lives in large colonies and is most destructive to garden fruits. The fulvous fruit-bat (*Rousettus leschenaulti Desm.*) is a cave-haunting form, which together with the Southern short-nosed fruit-bat (*Cynopterus sphinx Vahl.*) is destructive to plantains, guavas and mangoes. The family *Rhinolophidæ*, distinguished by a nose leaf, is represented by the genera, *Rhinolophus* and *Hipposiderus*, the members of which occur both in forests and in human dwellings. The common names of the species, the rufous horse-shoe bat (*R. rouxi Temm.*), the great Indian horse-shoe bat (*R. beddomei And.*), the little Indian horse-shoe bat (*R. lepidus Blyth.*), the large Indian leaf-nosed bat (*H. lankadiva Kel.*), Syke's leaf-nosed bat (*H. speoris Schneid.*) and the bi-coloured leaf-nosed bat (*H. fulvus Gray.*), are derived from the character of the nasal appendage. The members of the family *Nycteridæ*, in addition to this character, *viz.*, a leaf on the nose, have their ears united at the base. The large vampire bats (*Lyroderma lyra lyra Geoff.*) frequent houses and the spoils of their foraging expeditions may be seen below their dwellings on the verandahs every morning. The Malay vampire bat (*Megaderma spasma trifolium Geoff.*) may also occur near about human dwellings. The family *Vespertilionidae*, which is by far the largest group, may be distinguished by the occurrence of a tragus in the ear

and the absence of a nose leaf. The Indian *Pipistrellæ* are rapid fliers, executing sudden twists and turns in the air, especially when hunting for insects. Kelaart's *pipistrella* (*Pipistrellus ceylonicus Kel.*) and (*P. ceylonicus chrysothrix Wrought.*) and the Indian dwarf *pipistrella* (*P. mimus mimuns Wrought.*), (*P. coromandra Gray.*) and (*P. ceylindicus Dob.*) are among the most common forms near about the houses. The second and the third species frequently enter lighted rooms at night, where they fly about in quest of insects. The winged termites, which come out in dense clouds after early summer showers, attract them in large numbers. Like the *Pipistrellæ*, Dormor's bat (*Scotozous dormeri dormeri Dob.*) and the common yellow bat (*Scotoptilus kuhli Leach*), (*S. wroughtoni Thos.*) and (*Myotis peytoni Wrought.*) are insectivorous and leave their hiding places early in the evening. But the most interesting member of the whole family is the painted bat (*Kerevoula picta Cantor.*) which, as Jerdon says, is easily mistaken for a large butterfly in the day time. It occurs in the whorls of the large stalks of plantain leaves and its bright colouration may have some protective significance. *K. crypta Wrought.* is reported from Shimoga. The family *Emballonuridæ* is not a wide one and the members belonging to this group have no nose leaf, but possess a tragus and the ears are united at the base. The bearded sheath-tailed bat (*Tapohzous melanopogon Temm.*), (*T. kachensis kachensis Dob.*) and the lesser Indian mouse-tailed bat (*Rhinopoma hardwickii Gray.*) are among its representatives in Mysore. *Tadarida tragata Dobson* and *Otomips wroughtoni Thomas*, are also known in the State.

Order *Rodentia.*

Among the members of the order *Rodentia*, are found species, which when they appear in numbers, become a destructive pest to the sustenance on which man lives. The output of forest produce depends on the absence or

abundance of the squirrel tribe. The South Indian flying squirrel (*Petaurista philippensis Elli.*), which is nocturnal in its habits and other diurnal forms, like the Coorg striped squirrel (*Funambulus wroughtoni Ryley.*), the dusky striped squirrel (*F. tristriatus numarius Wroughton.*) which live on fruits, nuts and berries, practically carry on their work of depredation without let or hindrance. One can easily imagine the extent of damage caused to forest revenue, when one realizes the fact that except the palm squirrel (*F. palamarum palmarum L.*) all other species, the common five-striped squirrel (*F. sublineatus Waterh.*) and (*F. palmarum bellaricus Wrought.*), the Bombay giant squirrel (*Ratufa indica indica Erx.*), the Coorg giant squirrel (*R. indica superans Ryley.*), the Central Indian giant squirrel (*R. indica bengalensis Blanf.*), the large Indian squirrel (*Sciurus malabaricus Erx.*) and the grizzled Indian squirrel (*S. ceylonicus Erx.*) inhabit the densely wooded tracts, where besides denuding trees of their fruits, they make in them large holes as their breeding grounds. Whatever may escape this process of destruction is sure to attract the attention of the members of the next family, the *Muridæ* which comprise the true gnawers. The Indian gerbil or antelope rat (*Tatera indica Hardw.*), which makes several, often deep, burrows near cultivated tracts, first begins with roots and grass and then proceeds to destroy the standing The field rats and mice, of which there is an appreciably large number in Mysore, are of the same disposition and others are found in granaries, stores and houses, where besides grain, they destroy frequently the garden produce as well. The occurrence of the Indian bush rat (*Gollunda ellioti Gray.*) in Mysore is rather doubtful but this deficiency, if it were so, is more than compensated for by forms like the Cutch rock-rat (*Cremnomys catchicus Wrought.*), the Malabar spiny mouse (*Platacanthomys lasiurus Blyth.*), the

bandicoot rat (*Bandicota malabarica Shaw.*), the South Indian mole rat (*Gunonmys kok Gray.*), the Deccan tree mouse (*Vandeleuria oleracea Benn.*), the white-tailed rat (*Epimys blanfordi Thos.*), the common Indian rat (*Rattus rattus rufescens Gray.*) and (*Rattus rattus wroughtoni Hinton.*), the South Indian field mouse (*Mus buduga Gray.*), the common Indian house mouse (*M. manei Kel.*), the long tailed tree mouse (*M. badius Blyth.*), the Deccan spiny mouse (*Leggada platythryx Sykes.*), the Coorg hill spiny mouse (*L. grahami Ryl.*), the Coorg lowland spiny mouse (*L. hannyngtoni Ryl.*) and the Mysore leggada (*L. siva Ryl.*). The Indian porcupine (*Hystrix leucra Sykes.*) is abundant and, protected by an armour of quills, commits ravages among coffee and sugarcane plantations, besides being destructive to crops and garden produce, like cabbages, carrots, onions, potatoes, peas and fruits. The family of hares (*Leporidæ*) is represented by only two species, the common Indian hare (*Lepus ruficaudatus Geoff.*) and the black naped hare (*L. nigricollis Cuv.*) which inhabit waste ground or dry cultivation. They are more often netted than shot, sometimes coursed with hounds, when they take refuge in holes and burrows, not necessarily their own.

Order *Ungulata.*

The members of the order *Ungulata* have hoofs instead of claws and their teeth are in the main adapted for a vegetable diet. All the modern survivals of this somewhat ancient race progress on the tips of their digits. The family *Elephantidæ*, some of whose extinct relations roamed over every part of the world from the Miocene to the Pliestocene times, is now confined to India and Africa. The vertical pillar-like legs, which characterize the elephants (*Elephas maximus L.*) must have developed as a secondary adaptive variation for supporting the enormous weight of the body. In Mysore, the movements of the herds are practically

confined to the districts of Mysore, Hassan, Kadur and Shimoga. The reputed intelligence and sagacity of the elephant are not borne out by the structure of the brain, which rather suggests specialization of a low type, while the massiveness of the skull is due to the formation of an immense number of air cavities. In India, the elephant figures largely in folk tales and religious works and is an indispensable appendage to court pageantry and temple processions. Mythologically the figure of an elephant represents the conception of eternity. The figure of the elephant is a prominent feature of the Ganga dynasty of Kings of Mysore. Down to historical times, the elephant has been part of the fighting forces of the country. For an account of Keddah operations in Mysore, the reader is referred to Section VII below.

The family *Bovidæ* includes the hollow-horned ruminants, such as the ox, sheep, goat, gazelle and antelope tribes. The Gaur or the Bison (*Bibos gaurus H.Sm.*) possesses, as regards habits of life, several points in common with the elephant. Their requirements in food and shelter being identical, the same causes must influence the movements of both, and according to the testimony of Sanderson, they are frequently found grazing in close proximity, without becoming intolerant of each other's presence. Unlike the elephants, however, the gaur has never been noticed, at any rate, in Mysore, to venture into the open country, but practically remains concealed in the dense forest belts in the Malnād districts.

The Nilgiri wild goat or South Indian Ibex (*Capra warryato Gray*) which is an inhabitant of the rocky slopes of the South Indian hills may cross over the British frontier into Mysore district but is not reported as being common. Blanford in describing the distribution of the *Nilgai* or *blue bull* (*Boselaphus tragocamelus Pall*) notes the occurrence of this tameable animal as far

as south of Mysore, though its abundance or even its occurrence in the State is more than doubtful. The same authority reports the occasional occurrence in Mysore of the four-horned antelope (*Tetracerus quadricornis Gray.*) which resembles the blue bull in keeping chiefly to undulating or hilly ground. The genus *Antelope* is quite Indian and includes only one species *A. Cervicapra L.*), the Indian antelope or black buck, a name associated with the brown pelage turning black with age. A tuft of hair on each knee is characteristic of the genus. The females are generally hornless and those of the male vary as regards distance from each other and the number of spirals. The gazelle may be distinguished by its smaller size and sandy colouration with a white belly. Horns are present in both sexes and are of fair length with a lyrate form. The Indian gazelle or Ravine deer (*Gazelle bennetti Sykes.*) is far less gregarious than the antelope and loves waste lands broken up by ravines. The power of the gazelle and of the antelope to live for a considerable time without drinking water is well-known though both are fond of fresh grass growing near the water margins.

The family *Cervidæ* comprising the deer tribe is absolutely distinguished from the foregoing ruminant animals by the existence of solid horns or antlers which, however, are very variably developed among the several members; and they are with few exceptions confined to the males. The Rib-faced or Barking Deer also known as Muntjac (*Muntiacus vaginalis Bodd.*), frequently erroneously called jungle sheep, derives its popular name from its well-known cry, which at a distance resembles the single bark of a dog. The tongue of this animal is very long and extensible and in confinement, for instance, in the Mysore Zoo, may be seen cleaning the whole face with it. The other name is due to a bony ridge which extends from the base of each of the short brow antlers,

converging towards the nostrils. The buck is able to defend itself by its long sabre-like upper canine tooth. The Sambar or Rusa Deer (*Rusa unicolor Bechs.*) is perhaps the largest of the deer tribe met with in India. The adult male is distinguished by long hair on the neck, which form an erectile mane, and the orifice of the sub-orbital glands is very large. In Mysore, where it is principally a woodland deer, it may be seen grazing on the fresh grass on the hill slopes, after the early rains, singly or only in very small parties. The South Indian Spotted Deer (*Axis axis Erx.*) which is much smaller than the Central Indian forms, is the most beautiful in build and colouration and its favourite resort is bushes and trees, near water-courses or bamboo-jungles. These forms are thoroughly gregarious and hundreds of individuals may, sometimes, be found in a large herd.

The family *Tragulidæ* is distinguished by the absence of the foot and eye glands which mark off the foregoing family (*Cervidæ*). The Indian Chevrotain or Mouse Deer (*Tragulus meminna Erxl.*) which may be more appropriately termed "Deerlet," has several points in common with the pig rather than the true deer tribe. Both sexes are hornless. The feet possess four toes, which characterize the Suina, and hence more primitive than either deer or antelopes and the organization of the stomach is intermediate between the pig and the ruminants. The Chevrotain is confined to the jungly districts in the State.

The pig family, *Suidæ*, is the least specialized among the Ungulates and judging from the fossil remains of the Indian Miocene and Pleistocene beds, it must have been an extensive one, including forms which unite the non-ruminant pigs with the horned ruminants. The Indian Wild Boar (*Sus cristatus Wagn.*) is a solitary animal, found during the day in high grass or crops, while the female and her litter, as a rule, associate in herds or

'Sounders.' They are fond of roots of a sedge growing on the tank slopes, where they turn up the soft earth either with their tusks or muzzle, when rooting about for food. These animals vary their vegetable diet by now and then resorting to feed on dead animals.

Order *Edentata.*

There is only one Indian family *Manidæ* belonging to this interesting order (*Edentata*) of mammals and may be easily distinguished by the large imbricating scales covering the head, limbs and stout tail. The under-surface is scaleless and scantily covered by hair. The powerful claws on the fore-feet are obviously intended to tear up the ant-hills, the builders of which form the chief food of the Indian pangolin (*Manis crassicaudata Geoff.*). The conical shape of the skull, its smoothness and the absence of teeth on the jaws, may lead one to mistake it for the skull of a bird, which it certainly resembles in a marked degree. The tongue is very long and is introduced into the tunnels of ants' nests for gathering termites. The scales constitute a protective armour and the animal rolls itself into a ball and hisses like a snake, on being attacked.

III. Birds.

Introduction.

The avifauna of certain places in Mysore, like the Bhadra valley in Kadur District, is both abundant and varied, and the occurrence of a large supply of insect and vegetable food all along the forests of the western portions of the State supports an equally rich wealth of bird life. The classification of birds is still a moot point and the system adopted by E. W. Oates and W. T. Blanford is followed here.

Order *Passeres.*

The order of *Passeres* practically includes half the total number of the known species of birds and the family *Corvidæ*, perhaps, represents the most exalted

group of the entire division. The crows are recognized by their black plumage and are distinguished from the *magpies* which possess a tail longer than the wing. The common Indian House Crow (*Corvus splendens Vieill.*) has a grey neck and the most obtrusive and clannish habits. The prevailing belief in India that crows are one-eyed has no basis in fact and is probably due to their habits of tilting their head in one direction to gain a clearer view of the objects which may have excited their curiosity. The Jungle Crow (*C. macrorhynchus Wagl.*) with a glossy black neck is found associating with the former species in towns and villages and the sexes in both forms are indistinguishable. The House Crow in Bangalore breeds from the middle of April to June, while the Jungle Crow breeds from January to March. The true Magpies (*Pica and Urocissa*) have not been reported from Mysore but their nearest relatives, the tree-pies (*Dendrocitta*) are represented by the species, *D. rufa, Scop. and D. leucogastra Gould*; the former occurring in small bands in the level country, while the latter is confined to forests. Both forms are black, with patches of white in *D. leucogastra Gould*, and they reach a length of 18 to 19 inches. The tits (Fam. *Parinæ*) are comparatively small birds, 5 to 7 inches long with an entire beak. The white-winged Black-tit (*Parus nuchalis Jerd.*) and the southern Yellow-tit (*Macrolophus haplonotus Blyth.*) occur in Mysore. They breed from May to September, making a small nest of hair, cotton and cocoanut fibres in holes of trees.

The sub-family *Crateropodinæ*, which includes the laughing thrushes and babblers, which are the most noisy and inquisitive birds, is only poorly represented in Mysore. The Wynaad Laughing Thrush (*Garrulax delesserti Jerd.*), the Nilgiri, and Banasore laughing-thrushes (*Trochalopterum cachinnans Jerd.*) and (*T. jerdoni Blyth.*) are fairly common in the hills. The Babblers

have a longer tail and the small flocks in which they associate generally keep to the ground. Their eggs are immaculate blue. The common Indian Babbler (*Argya caudata Dum.*) addicted to jungles, and the large Rufous-Babbler (*A. subrufa Jerd.*) also keeping to dense coverings, are met with as frequently as the other Babblers belonging to the general *Crateropus* and *Pomatorhinus*. Of the smaller Babblers belonging to the sub-family *Timeliinæ*, we may mention the occurrence of the small white-throated (*Dumetia albigularis Blyth.*), the yellow-eyed (*Pyctorhis sinensis Gm.*) and the black-headed Babblers (*Rhopocichla articeps Jerd.*) which keep to bushes and light jungle, feeding on the ground in company. The sub-family *Brachypteryginæ* is a group of long-legged terrestrial birds, nearly all of them are skulkers in bushes. The Malabar Whistling-Thrush (*Myiophonous horsfieldi Vigors.*) is occasionally met with in the woody southern portions of Mysore district, while the Indian Blue-chat (*Larvivora brunnea Hodgs.*) is a fairly permanent resident whose migratory movements are confined to shifting from one elevation to another according to the season and the supply of food. The Short-wings (*Brachypteryx albiventris Fairb.* and *B. rufiventris Blyth.*) confined to the higher altitudes, are dwellers in thickets, where they are hard to discover. During the breeding season, the male develops "a pleasing little song." The fairy Blue-bird (*Irena puella Lath.*) of the sub-family *Liotrichinæ* is a brightly coloured bird, occurring in the evergreen forests, either in small parties or in pairs. The bill, though shorter than the head, is powerful and the female is more soberly coloured. The young are like the female and the male changes into adult plumage about March without a moult. Of the Bulbuls belonging to the sub-family *Brachypodinæ*, the occurrence of the South Indian Black Bulbul (*Hypsipetes ganeesa Sykes*), the Madras Red-vented Bulbul (*Molpastes haemorrhous Gm.*),

the Southern Red-whiskered Bulbul (*Otocampsa fusci-caudata Gould*) and the Yellow-throated Bulbul (*Pyeno-notus xantholaemus Jerd.*) may be noted. It is possible that *Micropus phaeocephalus Jerd.* may also be found in the borders along the Wynaad and S. Coorg.

The nut hatches, which constitute the family of *Sittidæ*, have as a result of their climbing habits developed a longer hind toe and their bills are adapted to catch insects and rend hard fruits like nuts. The Chest-nut-bellied nut hatch (*Sitta castaneiventris Frank.*) and the Velvet-fronted blue nut hatch (*S. frontalis Horsf.*) which occur on the Wynaad borders, generally frequent well-wooded tracts both in hills and plains. The 'king-crow' or Drongo-shrike (*Dicrurus ater Herm.*) is, perhaps, the most familiar bird of the family *Dicruridæ*, which forms the best-defined group of the *passeres*, possessing a glossy black colour and a forked tail of ten feathers. This bird has nothing in common with the crow whom, however, it will never hesitate to attack whenever disturbed. The other Drongo (*D. caerulescens L.*) is met with in Mysore during the cold weather and perhaps migrates to the north of the Peninsula in the hot months. The White-bellied form is reported to have a rich oriole-like note. The tree creepers and the wrens of the family *Certhiidæ* are not represented in Mysore; the warblers which comprise the large family, *Sylviidæ*, are sober-suited, comparatively small-sized birds which migrate in some cases far and wide. A great number of them are winter-visitors to Mysore, while a few remain in the plains in the hot weather, breeding between June to August. *Acrocephalus agricola Jerd.*, or the Paddy-field Reed-warbler is a winter bird and *A. stentoreus Hempr. & Ehr.* may stay throughout the summer. The Indian Tailor-bird, *Orthotomus sutoris Forst.*, which is a Wren Warbler is a permanent resident. It is so called because it literally sews its curious nest with fibres and leaves.

About the monsoon time, when the breeding season for this bird commences, the cotton tree also bursts its pods and enables the bird to steal large quantities of cotton to stuff its nest with. Another common warbler in Mysore is *Chactornis lœustelloides Blyth.*, which has a wide distribution and is known to change colour into a uniformly dull white during the nuptial season, generally after May; *Acanthopneuste lugubris Blyth.*, stays only for a few months, summering in the higher parts of Sikkim. The true Wren-warblers, like *Priniajerdoni Blyth.* and *P. inornata Sykes.*, are permanent residents which change colour during the pairing time. These, together with *P. sylvatica Jerd.* and *P. socialis Sykes.*, are the principal representatives of the family *Sylviidæ* in Mysore. The Shrikes or Butcher-birds, which constitute the family *Laniidæ* are a group of quarrelsome birds, which resemble hawks in point of rapacity, though not in structure. The Bay-backed Shrike (*Lanius vittatus Val.*) is smaller than a Bulbul and is commonly seen perching on some prominent branch of a bush, catching insects either on the wing or on the ground. The Rufous-backed Shrike (*L. erythronotus Vigors.*) which is also a permanent resident, is slightly larger than the previous species and has no white in the wings and tail and its rump is red. The Black-backed Pied Shrike (*Hempipus picatus Sykes.*) and the Malabar Woodshrike (*Tephrodornis sylvicola Blyth.*) have the habit of fly-catchers, in feeding entirely on the wing and are by no means brightly coloured. Both species breed in Mysore in March and April. The common minvet of Mysore is *Pericrocotus flammeus Forster*, which with tit-like habits, is entirely arboreal and looks among leaves and branches for insects. It may move in small flocks from place to place, though not commonly. The White-billed minvet, *P. erythropygius Jerd*, occasionally breeds in the hilly tracts in the months of July and August.

Of the family *Oriolidae*, comprising the Golden Orioles, there are probably only two species common in Mysore, *viz.*, *Oriolus kundoo Sykes.* and *O. melanocephalus Linn.* The note of the Indian Oriole is a rich mellow whistle, which together with its beautiful yellow and a pink beak and eye, ought to distinguish it from the black-headed species "which is less tastefully got up." Both are fruit-eaters, occasionally catching insect larvæ. They also associate with mynas in the peepul trees.

The Grackle family *Eulabetidæ* is not an extensive one, and its only representative in the forests of Mysore is *Eulabes religiosa Linn.*, which is perhaps locally migratory. The notes and power of mimicry of this species are only rivalled by the starlings and the mynas, which comprise an equally restricted family *Sturnidæ*. It is doubtful whether any of the starlings belonging to the genus *Pastor* occur in Mysore, but among the mynas, are found *Sturnia blythii Jerd.*, which is reported to breed in Mysore in April and probably the Grey-headed Myna (*S. malabarica Gm.*) also. They are arboreal, feeding on insects or sucking the nectar contained in flowers. The Black-headed Myna (*Temenuchus pagodarum Gm.*) is a familiar bird distinguished by a black crest on the head and a rich buff coat. This species, like the common Myna (*Acridotheres tristis Linn.*) is a ground feeder, hunting for grasshoppers, for which they closely follow the heels of the grazing cattle. From May to August both construct flimsy nests in the holes of the walls, or trees in the gardens, laying from three to five eggs of a pale bluish green. *A. tristis* is kept as a pet and taught to speak. The family *Muscicapidæ*, comprising the fly-catchers, are recognized by the presence of hairy feathers stretching over the nostrils and very feeble feet, which disable them from walking on the ground. A great many are migratory birds and among them may be mentioned the winter visitor to Mysore, *Siphia parva*

Bechst. Of the fly-catchers occurring in the plains, there are several species, belonging to the genera *Cyornis, Stoparola, Alseonax, Ochromela, Terpsiphone and Rhipidura.* The Indian Paradise Fly-catcher *T. paradisi Linn.*, is sexually dimorphic; the adult male has a glossy black-crested head, a white body and two white streamers on the tail, while the female provides itself with a chestnut suit, attracting little or no notice. The white-bellied blue Fly-catcher (*C. pallidipes Jerd.*) and Tickell's blue Fly-catcher (*C. tickelli Blyth.*) are met with in Mysore, where they are permanent residents. The brown Fly-catcher (*A. latirostris Raffl.*) is a tiny little brown bird with the habit of sitting bolt upright, and with ceaseless movements of its tail. It may be seen in the garden perching on the same twig from day to day. The family *Turdiplæ*, composing the Chats, Blackbirds, Redstarts, Forktails, Thrushes and Robins, is a very large group of the *passeres*, but are poorly represented in Mysore. The long feet possessed by the members of this family and the absence of hairy feathers over the nostrils serve to distinguish them from the Fly-catchers. The common Chats like *Pratincola caprata Linn., P. atrata Kel.* and *P. maura Pall.* are permanent residents in Mysore and their breeding time is from February to June, when they construct somewhat flat primitive nests in wells or holes in the ground. The Magpie Robin, *Copsychus saularis Linn.*, and the Black-backed Indian Robin, *Thamnobia fulicata Linn.*, are common in the gardens. They have a habit of erecting the tail almost vertically and are groundlings collecting all manner of insects, but with no interest in fruits. The Magpie Robin has a wonderfully rich and varied tone. The Black Birds, *Merula nigripileus Lafr.* and *M. simillima Jerd.*, are dwellers of thick woods on elevations, occasionally entering the gardens of travellers' bungalows. The latter species resembles the English

Black Bird and its charming song is quite a feature of country life in Mysore. But one must resort to the woods after the early showers in May if one desires to hear the melodious song of the Thrushes *Oreocincla nilgiriensis Blyth.* and *Geocincla wardi Jerd.*

In the family *Ploceidæ* are included the Weaver Birds (sub-family *Ploceinæ*) and the Munias (sub-family *Viduinæ*) which are gregarious in their habits and as grain-feeders they are a nuisance to the raiyats. The Baya or the Weaver-Bird, *Ploceus baya Blyth.*, constructs an exquisite bottle-shaped nest, fixing it at the end of branches of trees, generally overhanging water. The nest is usually studded with clay balls, which, according to Jerdon, are used for steadying it, if it should become lop-sided; but, according to popular belief, the male sticks fire-flies on these soft clay masses, apparently with a view to secure a brilliantly decorative effect for its dwelling. The rim of the long funnel, which is the passage to the nest, is not plaited, but is loose, obviously with a view not to afford any firm hold to enemies like snakes. The Munias are the handsome tiny cage-birds with red or black bills. We have the Indian Red Munia, *Sporæginthus amandave Linn.*, and at least three species of the genus, *Uroloncha.*, Jerdon's White-backed Munia (*U. striata Linno*) is a black and white bird with a bluish beak and the Spotted Munia (*U. punctulate Linn.*) is of a rich brown colour, the underparts being white with stripes on the sides. The White-throated Munia (*U. malabarica Linn.*) is reported to be "promiscuous in family matters," laying eggs in the neighbours' nest instead of its own. Another family of gregarious birds, also with granivorous or frugivorous habits, are the Finches (Fam.: *Fringillidæ*), characterized by a stout bill which they use in husking grain. The common House Sparrow, *Passer domesticus Linn.*, is the best known member of the Finch family, whose

noisy presence near about the house is sometimes intolerable. Sparrows build their nests in the ceiling generally or in holes in the walls. The Yellow-throated Sparrow (*Gymnorhis flavicollis Frankl.*), though not common in populous towns, occurs in company with the House Sparrow in the country side, where like the house pest, it does not attach itself to man. The Rose Finch (*Carpodacus erythrinus Pall.*), is a winter visitor to Mysore, which it leaves about the middle of March. The Red-Headed Bunting (*Emberiza luteola Sparrm.*), may also be met with only as a stray winter visitor. In the next family *Hirundinidæ*, comprising the Swallows and Martins, we return to insectivorous birds. The common Martin, *Chelidon urbica Linn.*, is reported from Mysore, where it breeds in the hot weather, while the Crag Martins, *Ptyonoprogne rupestris Scop.* and *P. concolor Sykes.*, appear to be rare. The Nilgiri House Swallow (*Hirundo javanica Sparrm.*) which is plentiful in towns, flying up and down the long streets, constructs a cup-shaped mud nest in bungalows and out-houses. The few that have established their home in the western verandah of the Zoological section in the Central College, Bangalore, breed annually between March and April. Besides, *H. erythropygia Sykes.*, which is a resident of the plains, there is the Indian Cliff Swallow (*H. fluricola Jerd.*), occurring in abundance near the Jog Falls (Gersoppa). *H. smithii Leach.*, the Wire-tailed Swallow, is a winter visitor, found coursing the ditches of the streets or the grassy nullas and occasionally *H. nepalensis Hodgs.* may be met with in its company. The nests of these migrants have been found along with those of the permanent residents. The Pipits and Wagtails, constituting the family *Motacillidæ*, are groundlings and except the Pied Wagtail (*Motacilla maderaspatensis Gm.*), nearly all other forms met with in Mysore are only winter-visitors, like *M. melanope Pall.*, *M. boreal*is

Sundev., and *M. citreola Pall.* They haunt cool, shady places near water margins, running between alternate steps preying upon all manner of small insects. The Pipits wag their tails only modestly and among the permanent residents we have, *Anthus nilgiriensis Sharpe.* and among the winter-visitors to the plateau of Mysore we have *A. maculatus Hodgs.*—the Indian Tree-Pipits. The former species keeps to the highest points of the hill ranges in the State. The Indian Skylark, *Alauda gulgula Frankl.*, belonging to the family *Alaudidæ*, is one of our song birds, frequenting corn fields and grassy plains from which they are, however, driven by the extensive employment of manure which they detest. The only other species definitely known to occur in Mysore is *Mirafra affinis Jerd.*, the Madras Bush-lark, about whose habits little is known. The Purple Sunbird, *Arachnechthra asiatica Lath.*, of the family *Nectariniidæ*, is common in our gardens, flitting from flower to flower, extracting the nectar hidden in the calyces. This species is the smallest of our garden birds and builds a small cup-shaped nest in the bushes, where two or three grey eggs are laid, chiefly in the cold months. The purple-Rumped Sun-bird, *A. zeylonica Linn.*, and probably also *A. minima Sykes.*, occur near about the gardens. In the gardens of the hill stations in Mysore, like the Nandi hills, the Flower Pecker, *Dicæum concolor Jerd.*, is common, dwelling in the foliage of trees. They are as tiny as restless and to watch them steadily for a few minutes in their haunts is by no means easy. The Pittas, family *Pittidæ*, are insectivorous groundlings, hopping and running with great facility. The Indian Pitta, *Pitta brachyura Linn.*, is a solitary representative in Mysore, with local migratory instincts.

Order *Pici*.

According to Blanford, the order *Pici* contains the single family of Woodpeckers *Picidæ*, while Evans and

Gadow combine a series of bird families with complicated relations under *Coracii formes*, which coincides with the *picariai* of Nitsch and Sclater. The little scaly-bellied Green Woodpecker, *Gecinus striolatus Blyth.*, is a fairly common bird in the wooded tracts of Mysore. It does not perch among the branches of trees, but moves about over the bark in a series of jerky movements, pausing now and then to hammer at the trunk for caterpillars which may have burrowed into the wood. It is curious that in whatever direction the Woodpeckers may be moving, they hold the head upwards, propping the body on the stiff short tail. The most familiar species of Woodpecker in the State is the Golden-backed three-toed form, *Tiga javanensis L. jung.*, which in Bangalore breeds about March, laying two or three elongated white eggs in a rudely constructed nest of leaves in the holes of trees. The other species, which are equally common in the cocoanut groves and topes, are *Iyngipicus hardwicki Jerd.* and *I. gymnophthalmus Blyth.* and the occurrence of large forms like *Chrysocolaptes festivus Bodd.*, *C. guttacristatus Tick.* and *Thriponax hodgsoni Jerd.* in the evergreen forests of the Malnād tracts is more than probable.

Order *Zygodactyli.*

The barbet family, *Capitonidæ*, is not numerously represented in the State. The common Green Barbet, *Thereiceryx viridis Bodd.* and possibly *T. zeylanicus Gm.* are residents of groves far from towns, but the most familiar example is the Coppersmith or Crimson-breasted Barbet, *Xantholpema hæmatocegahala P. L. S. Mull.*, whose dull monotonous call, *tonk tonk tonk*, uttered in a wearisome manner but at regular intervals is common experience in Bangalore in March and April.

Order *Ansiodactyli.*

The Rollers (Fam.: *Coraciadæ*), Bee-eaters (Fam.: *Meropidæ*), Hornbills (Fam.: *Bucertidæ*), King fishers (Fam.: *Alcedinidæ*), and Hoopœs (Fam.: *Upupidæ*)

constitute the order *Ansiodactyli* and modern ornithologists are not quite agreed as regards the affinities of these several families. The Indian Roller, *Coracias indica Linn.*, with its blues and brownish rufous, is the common bird perching on the telegraph wires, which one sees from the train and it leaves the villages and cultivation for the wooded tracts during the breeding season from March to May. The occurrence of *Eurystomus orientalis Linn.*, the Broad-breasted Roller, within the State is only exceptional. The Indian Bee-eater, *Merops viridis Linn.*, is the representative of the family *Meropidæ*, to be seen from the end of the rains to the beginning of the hot weather, disappearing in the interval for the purpose of breeding.

The Pied Kingfisher, *Ceryle varia Strickl.*, is common on all rivers and tanks and hovering about ten or fifteen feet above the water, drops vertically on its prey, uttering a sharp twittering cry in the meantime. Equally common near the waters is *Alcedo ipsida Linn.*, not much larger than a sparrow, though of a most irritable temper. The beautiful White-breasted Kingfisher (*Halcyon smyrnensis* L.) and the Stork-billed Kingfisher (*Pelargopsis gurial Pears.*) have a coral-red bill: the latter species is common in Malnād tracts, near about all streams. None of these brilliantly coloured birds have a musical note, their cry being a harsh guttural twitter. The Hornbills, *Lophoceros birostris Scop.* and *L. griseus Lath.*, are not uncommon visitors to the forest belts of Mysore. Their heavy bills and the habit of the male among them walling up the female bird from before laying her first egg till the young are about a week old are well known. It is a long step from the Hornbill to the Hoopoe (*Upupa indica Reich.*) a bird about the size of myna with a long, slender, curved bill and a coronal crest. This species is a permanent resident, which together with the winter visitor, *U. epops Linn.*, is well known for the habit of

probing the ground for ant-lions and other subterranean grubs.

Order *Macrochires.*

There are five species of Swifts (Fam.: *Cypselidæ*) in Mysore. Two of these, *Cypselus melba Linn.* and *Chaturа Indica Hume.*, are among the fleetest of birds, capable of flying 100 to 125 miles per hour. The Indian Swift, *Cypselus affines Gray.*, is common in old temples, where they construct nests composed of feathers, grass, twine, rags and wool. The Swifts have all the toes pointing forwards and can only cling but not perch like swallows. *Chætura sylvativa Tick.*, the White-rumped Spine-tail, is a forest species common on the southern borders of Mysore district, where the Indian edible nest 'swiftlot', *Collocalia fuciphaga Thunb.*, occurs in the hill ranges. The presence of feathers and straw in the nests makes them rather inedible. The Nightjars or Goatsuckers, as the generic title *Caprimulgus* expresses, are nocturnal, insectivorous birds about the size of pigeons. Franklin's Nightjar, *C. monticola Frankl.*, Horsfield's Nightjar, *C. macrurus Horsf.*, and the Jungle Nightjar, *C. indicus Lath.*, are chiefly forest birds, while *C. asiaticus Lath.*, occurs in the plains, chiefly in uncultivated open country. All these species lay their eggs, two in number, of a pale solomon pink or stone colour, on the bare ground in the hot season.

Order *Coccyges.*

The sub-family *Cuculinæ*, comprising the Cuckoos, is biologically the most interesting group. From March to July most of them remain in the plateau of Mysore, while some continue in it even in the colder months. Curiously they are "heard rather than seen"; their power of mimicry and their extraordinary habits of parasitism in foisting the duties of rearing their offspring on other birds are well known. The Common Cuckoo (*Cuculus canorus Linn.*), which breeds between April

and June, resembles a sparrow-hawk which is dreaded by birds like robins, wagtails, pipits and bushchats. On the appearance of the male cuckoo in the neighbourhood of these little birds, "they join together in defence of their homes and proceed to buffet the intruder, who draws them away from their nests, into which the female cuckoo, taking advantage of the absence of their rightful owners, slips her eggs." "Soon after hatching, the young foundling proceeds to eject the offspring of its foster parents from the nests, so as to appropriate to itself all the supply of food to which it has absolutely no manner of right." The Common Hawk-cuckoo or more often known as the 'brain-fever bird' (*Hierococcyx varius Vahl.*) also strikingly resembles the shikra (*Astur badius Gm.*) It is a permanent resident but heard only from March to July and Jerdon describes its call more as a loud crescendo, something like 'Pipeeha pipeeha', each repetition higher in the scale. This species victimises the babblers, who rear its progeny. The manner in which the Cuckoos deposit their eggs in the nests of other birds is one which has engaged a great deal of attention. It used to be supposed that the eggs were laid in the normal way in the nest of the birds selected as foster-parents and this may be occasionally so, but the more frequent method is, as pointed out by Bainbridge Fletcher and Inglis, for the egg to be laid and then carried by the Cuckoo in its bill and dropped into the nest selected for the purpose. The unusually thick texture of the cuckoo-egg shell seems to be specially adapted to this end as, in cases where the nest is placed inside a hole, the egg may have to be dropped into it from a little height. In the case of Hawk-cuckoo, it is possible that its hawk-like appearance on the wing may be advantageous in securing a clear field for depositing an egg in this way in the nest of the "Seven Sisters" or some allied species of Babblers, as one observer states

that the whole sisterhood makes itself scarce when the Hawk-cuckoo appears on the scene, and thus give her a fair field for planting her oval imposition on them. The Plaintive Cuckoo (*Cocomantis passerinus Vahl.*), common in the groves and gardens, selects the nests of wren-warblers and bulbuls while the Drongo-cuckoo (*Surniculus lugubris Horsf.*) which is somewhat rare, resembles the Drongo-shrike (*Dicurus ater.*), thereby obtaining access to the nests of its model. The pied Crested Cuckoo (*Coccystes jacobinus Bodd.*) resembles a magpie and is far more savagely attacked by crows than even the koel (*Eudynamis honcrata Linn.*), which is the bird of the Indian poets. It is a black bird of the size of a crow and is frequently called the 'brain-fever bird', a name perhaps due to the fact that its cries become more persistent as the temperature becomes warmer from March to July. The house crow (*Cervus splendens*) and the jungle crow (*C. macrorhynchus*) play the foster parent to the young koel. The Coucal or more popularly known as Crow Pheasant (*Centropus sinensis Steph.*) is a black bird with straight hind claw, occurring in cultivated and waste lands. It is a cuckoo that is trapped or netted by the wild tribes in Mysore like Sholigas and Kurubas who prize its flesh. This species makes its own nest, breeding about the month of June.

Order *Psittaci.*

The parrots by their docile and amusing habits, bright plumage and capacity to stand confinement, have been the most favourite of all birds. They are characterized by certain striking features like the movement of the upper beak and zygodactyle feet. The commonest Indian Parrot (*Palæornis torquatus Bodd.*) is seen flocking in the evening on the peepul tree along with the crows and mynas and is the most destructive to fruit gardens. This parrot builds its nests towards February in the holes of the walls of temples and houses in the extensions in

Bangalore. *P. cyanocephalus Linn.*, the western Blossom-headed Paraoquet and the Blue-winged Paraoquet (*P. columboides Vigors.*) are forest species visiting the open cultivated tracts after the rains. Specimens of the Indian Loriquet (*Loriculus vernalis Sparrm.*), reported from western Mysore, are only cold weather visitors, occasionally met with in the fruit gardens after the rains.

Order *Striges.*

The owls have a position midway between the parrots and the *Accipitres* or birds of prey and are distinguished by the reversible outer toe, two large eyes looking forward, uncommonly large 'ears', a parrot-like beak, and peculiarly soft feathers. Some at any rate of these characters are associated with their nocturnal habits, which together with their dismal cries, must account for the popular belief that they are birds of evil omen. The little Spotted Owl (*Athene brama Temm.*) with its semi-diurnal habits, is the familiar bird whose noisy jabber near about the houses is a nuisance. Perching on electrical wires, these owlets get a rich feed of winged termites which gather in dense clouds round the street lamps. This species roosts and breeds, from March to May, in the roofs of the houses in the extensions in Bangalore. More thoroughly nocturnal and therefore less familiar is the Barn owl (*Strix flammea Linn.*), which establishes its home in the deserted temple, old walls and forts. They were formerly common in the extensions in Bangalore and the present writer hae noticed them swooping, from their perches on telephone wires, on mice which come out in the dark to pick gram from the droppings of horses on the streets. This species is less dreaded by the superstitious folk than ths great Fish-owl (*Ketupa zeylonensis Gm.*) whom the prospect of food may sometimes attract to the neighbourhood of human dwellings and its loud and ghostly cry

'Ghoo-Ghoo-Ghoo', far reaching without being localized, combined with the weird stillness of the night must produce a terrible effect on weak nerves. This owl is as fond of mice and other small mammals as any other species of its tribe. Among the Wood-Owls confined to the hill forests, may be mentioned the Brown-owl (*Syrnium indrani Sykes.*), possibly the mottled form *S. ocellatum Less.* and the Eagle Owl (*Huhua nepolensis Hodgs.*). Their habitat, large holes in trees and crevices in rocks, and their shy disposition do not favour their being seen.

Order *Accipitres.*

The diurnal birds of prey which constitute this order are a strikingly marked group, with a raptorial bill, powerful talons, strong and sustained powers of flight and the long nest occupation of the young. The Vultures are a bald-headed and bare-necked family, with perhaps a single genus, *Neophron*, represented in Mysore. The White Scavenger Vulture, *N. ginginianus Lath.*, is common about towns and villages and the other forms are *Otogyps calvus Scop.*, the Pondicherry Vulture, *Gyps indicus Scop.*, the Long-billed Vulture and *Pseudogyps bengalensis Gm.* the White-beaked Vulture. The great majority of other raptorial birds, like hawks, kites, falcons, harriers and eagles, which comprise the family *Falconidæ*, differ from the vultures in having their neck and head decently clothed and never given to foul-feeding. The only two eagles likely to occur in Mysore are Bonelli's Eagle (*Hieraëtus fasciatus Vieill.*) and possibly the Black Eagle (*Ictinaëtus malayensis Reinw.*) The first species is destructive to pigeons and some of the bolder members may carry off even large-sized chicken. Legge's Hawk-eagle, (*Spizaëtus kealarti Legge.*) is confined to the hilly tracts, while the white-eyed Buzzard-eagle, *Butaster teesa Frankl.*, keeps very much to the open plains, building a crude nest of sticks in the mango trees.

The Brahminy Kite, *Haliastur indus Bodd.*, and the Common Kite, *Milvus govinda Sykes*, are the familiar country-side birds. The Black-winged Kite, *Elanus caeruleus Desf.*, occurs only rarely in the western outskirts of the State. The Harriers, *Circus macrurus Gm.* and *C. cineraceus Montagu*, which are our cold-weather visitants, scour the country during their sojourn, for quails, munias, mynas and incautious mammals of small size. The Shikra, *Astur badius Gm.* is easily known by its flight which consists of a few rapid strokes of the wing and then a gliding movement, and is a terror to small birds like sparrows and bulbuls. The Crested Goshawk, *Lophospizias trivirgatus Temm.*, is a hill-forest shikra of doubtful occurrence in Mysore and the Sparrow Hawk, *Accipiter nisus Linn.*, may take its place, which for sheer boldness and swiftness of attack excels birds of larger size. The falcons do not resort, like hawks, to surprises, but fairly hunt down their victims in the open air. Doubtless the Peregrine Falcon, *Falcon peregrinus Tunstall.*, flies over Mysore in the cold weather, but the Laggar Falcon, *F. jagger Gray.*, is a permanent resident, striking down all manner of smaller birds, chiefly pigeons. *Tinnunculus alaudarius Gm.* is the Kestrel or the wind hover, a name which it derives from its habit of hovering in the air before alighting on its food of lizards, mice and frogs and is a great lover of open grassy plains.

Order *Columbæ*.

In the order *Columbæ*, we have a group of birds like Pigeons and Doves which are either grain or fruit-eaters. The South Indian Green Pigeon (*Crocopus chlorogaster Blyth.*) occurs in flocks wherever the banyan and peepul trees abound. *Osmetreron affinis Jerd.*, the grey fronted green pigeon, like the foregoing species, is a forest haunting example, easily approached and shot. In all rocky cliffs and old deserted buildings and sometimes when encouraged, in towers of mosques, are found large flocks

of Blue Rock-pigeons (*Columba intermedia Strickl.*) which are the parents of all the commonest varieties, like tumblers, pouters and fantails, which the fancier has produced. The Nilgiri Wood-pigeon (*Alsocomus elphinstonii Sykes.*) which keeps to the hill-forests of the Malnād tracts, is quite as large as a fowl. Of the Doves, that which is most often seen in Mysore is the spotted species (*Turtur suratensis Gm.*), which can be recognized by its reddish wings spotted with dark brown and pale buff. The Indian Turtle-dove (*T. ferrago Eversham.*) is not at all, and the little Brown dove (*T. cambaymsis Gm.*) only too frequently, met with in the bush jungle and trees about cultivation. It is doubtful if the Red Turtle-dove (*Oenopœlia tranquebarica Herm.*) occurs within the confines of the State.

Order *Pterocletes.*

Like Pigeons and Doves, the Sand or Pigeon-grouse is a lover of hard seeds and is monogamous. Blanford reports the occurrence of the painted sand-grouse (*Pterocles fasciatus Scop.*) in Mysore and this is perhaps the only representative of this somewhat restricted order in the State.

Order *Gallinæ.*

The members of this order are most varied and are represented in Mysore by the common Pea-fowl, *Pavo cristatus Linn.*, the grey Jungle-fowl, *Gallus sonnerati Temm.*, the Red Spur-fowl, *Galloperdix spadicea Gm.* and occasionally the Painted Spur-fowl, *G. lunulata Valenc.* They are shy birds confined to wooded ravines near water and bamboo jungles. Living habitually among hedges and bushes, is found in little flocks the Bush-quail (*Perdicula asiatica Lath.*) all over the forests and hills. The Grey Quail (*Coturnix communis Bonn.*) is a cold weather visitant and all along the Ghats the Painted Bush-quail (*Microperdix erythrorhynchus Sykes.*) occurs. The White-painted Partridge, *Francolinus pictus*

Jerd. and the Grey-partridge, *F. pondicerianus Gm.*, affect cultivated tracts.

Order *Hemipodii.*

The order of *Hemipodii* has been created to receive the three-toed quails and throughout, unlike the foregoing order, the female birds are bigger and in a few species are more brightly coloured. They lead a solitary life in grassy plains and do not fly till actually endangered, when after a short flight drop again "whence they can be very seldom flushed a second time." The Button Quails, belonging to the species *Turnix pugnax Temm.*, the Bustard-quail and rarely *T. dussumieri Temm.*, the little Button Quail, are the only representatives in Mysore.

Order *Grallæ.*

The only common forms representative of this order are the Blue-breasted Banded Rail, *Hypotaenidia striata Linn.*, and the Ruddy Crake, *Amaurornis fuscus Linn.*, which love swampy places and bamboo jungles where, owing to their skulking habits, they are occasionally heard rather than seen. The Brown Crake, *A. akool Sykes.*, though a moorhen rather than a rail, can swim in water quite as well as run on land, and the true moorhen, *Gallinula chloropus Linn.*, is only an occasional visitant to the large swampy areas in the Malnād belt. Among the cranes haunting the tanks or rivers, we notice *Grus communis Bechst.*, which as the specific name indicates is a gregarious bird like the Demoiselle Crane, *Anthropoides virgo Linn.* The Great Indian Bustard, *Eupodotis edwardsi Gray.*, frequenting wastes covered with low grass in the dry open country, is one of the largest game birds often weighing 25 to 30 lbs., and distinguished by its peculiar deep booming note. The Florican, *Sypheotis aurita Lath.*, breeds and lives in high grass or growing crops and is a permanent resident of the Mysore State.

Order *Limicolæ*.

Swamps, river-side and stony plains are the favourite haunts of the members of this group. The Stone Curlew, *Ocdicnemus scolopax Gm.* and the Stone-plover, *Esacus recurvirostris Cuv.*, are met with in undulating ground; the former is well known for its trick of lying down on the ground when pursued, when detection becomes difficult. The Courser (*Cursorius coromandelicus Gm.*) is as common on the sandy tracts of the State as the Bronze-winged Jacana, *Metopidius indicus Lath.*, near about tanks overgrown with water reeds. Among the Lapwings and Plovers, we may note the occurrence of the Red-wattled Lapwing, *Sarcogrammus indicus Bodd.*, and some species of Sand Plovers (*Aegialitsi*). The sportsman's "Snippets" are either the common Sandpipers (*Totanus hypoleucus Linn.*) or the Wood Sandpiper (*T. glareola Gm.*), or the Green and Red Shanks belonging to the same genus. Other water birds which are our cold weather visitors are the Woodcocks, *Scolopax rusticula Linn.*, and the Snipes, *Gallinago*. The former is a nocturnal feeder and is rare in Mysore. The Pintail Snipe, *G. stenura Kuhl.*, and rarely *G. cælestis Frenzel*, the Fan-tail Snipe, predominates in Mysore in season.

Order *Gaviæ*.

The River-tern (*Sterna seena Sykes.*) and the Black-belted Tern (*S. melanogaster Temm.*) are common Mysore river-birds, frequently met with near large tanks and marshes also.

Order *Stegacopodes*.

No breeding ground of the Spotted-billed Pelican (*Pelecanus philipensis Gm.*) has been discovered in Mysore and the Cormorant visiting, either singly or in flocks, the rivers and tanks within the State is *Phalacrocorax javanicus Horsf.* The commonest of the diving fishers is the Indian Darter or Snake-bird, *Plotus melanogaster Penn.*

The members of this order are marsh-lovers and resemble the Cranes and *Limicolæ* in having long bills, necks and shanks. It is doubtful if any *Ibis* is met with in Mysore, where, however, the Black-necked Stork, (*Xenorhynchus asiaticus Lath.*) frequents the river margins of the Cauvery, the Thunga and the Bhadra. The Herons, belonging to the genus *Ardea*, are uncommon, while the Egret, *Bubulcus coromandus Bodd.*, is met with in large numbers in company with the Pond Heron, *Ardeola grayi Sykes*. The latter is essentially a paddy bird, fond of cultivation or ponds which hold frogs and crabs. It is probable that the black Bittern, *Dupetor flavicollis Lath.*, occurs within the confines of the State. Order *Herodiones*.

The web-footed birds, ducks, geese and swans form this well-marked order. The Swans (*Cygnus*) are not reported from Mysore. The Comb Duck or Nukta, *Sarcidiornis melanonotus Penn.*, is common near about marshy tanks with reedy margins, where as an occasional visitor the Pink-headed Duck, *Rhodonessa caryophyllacea Lath.*, may also be met with. The migratory Brahminy Duck or Ruddy Sheldrake, *Casarca rutila Palls.*, occurs in cold weather near the sandy banks of all the rivers in Mysore. About weedy ponds, we have the Whistling Teal, *Dendrocygena javanica Horsf.*, the Cotton Teal, *Nettopus coromandelianus Gm.* and occasionally the spotted billed duck, *Anas poecilorhyncha Forst.*, which offer excellent sport at all times. Among the migratory ducks, which are sometimes met with about October to March, may be mentioned *Nettium crecca Linn.*, the Common Teal, and *Dafila acuta Linn.*, the Pintail. Order *Anseres*.

IV. Reptiles.

Reptiles are cold-blooded scaly animals which breathe by lungs. A fairly tropical climate and a rich supply of Introduction.

insect food support quite an abundance of reptilian life within the State. Their mode of occurrence is correlated with their structure; some inhabit the rivers and tanks, a few are entirely arboreal, others dwell in the underground burrows or lead a subterranean life. A great majority of reptiles are nocturnal in their habits, while others that venture to hunt for their prey during the day time, trust for their safety either to their speed or effective concealing powers. In regard to their classification and nomenclature, Dr. G. A. Benlenger is followed.

Order *Emydosauria.*

The Marsh Crocodile or the "Mugger," *Crocodilus palustris Less.*, flourishes in abundance all along the Bhadra and the Cauvery, and being naturally a timid animal, has not been known to molest man or animals in his service, except under grave provocation.

Order *Chelonia.*

There is no mistaking a tortoise in which the long retractile neck and legs act as a piston for respiratory purposes. The soft shelled family *Trionychidæ* is represented in the Mysore rivers by the species *Trionyx leithii Gray.* and *Emyda vittata Peters.*, both of a pugnacious temperament. The family *Testudinidæ*, which is a wide one, contains two forms occurring commonly within the State, *viz.*, *Testudo Elegans Schoep.* and *Nicora trijuga Schweigg.*, both of terrestrial habits, living in the grassy jungles at the base of the hills. The only other form that may possibly occur in the Cauvery is *Kachuga lineata Gray.*

Order *Squamata.*

Lizards, skinks, monitors, chameleons and snakes comprise this comprehensive group. Among lizards possessing cylindrical digits, we may mention the occurrence of genera like *Gymondactylus* and *Gonatodes.* Examples such as *Gym. nebulosus Bedd.*, *Gym.*

albofasciatus Boul., *Gon. mysoriens Jerd.*, *Gon. indicus Gray.* and *Gon. wynadensis Bedd.* are inhabitants of moist sub-tropical forests of the Malnād districts with diurnal habits. On the slightest approach of danger, they retreat under stones or disappear in a heap of dead leaves. Geckoes, with dilated digits, possessing adhesive structures underneath the toes, constitute the common genus *Hemidactylus*, most members of which possess "a voice," from which the superstitiously disposed persons draw all manner of prognostications. About eight species of this genus can be mentioned as occurring in Mysore and in the villages with a rank scrub jungle all round, *H. frenatus Dum. and Bibr.*, *H. gleadovii Kel.*, *H. leschenaultii Dum. and Bibr.*, and *H. coctaei Dum. and Bibr.* are met with as house Geckoes. They are mainly nocturnal in their habits but in places rarely frequented, like forest or inspection bungalows, they may be seen running about the floor and walls in day time. Like *H. reticulatus Bedd.*, *H. triedrus Daud.* is a Hill Gecko with young ones which are curiously striped. H. *leschenaultii Dum. and Bibr.* is not infrequently met with on the peepul tree, the bark of which completely harmonises with the colour of this Gecko. "The tail of all these forms is the weakest point of their structure and if dismembered, is soonest regenerated. The extraordinary twitchings of the snapped appendage in the claws or jaws of the pursuing enemy must be the only defence of these harmless lizards, which having thus drawn the attention of the captor to the less vulnerable part, escape into their retreats with their body intact."

In the family *Agamida*, we find mostly arboreal, laterally compressed forms which possess eyes provided with lids and a differentiated dentition. The "Flying Dragon," *Draco dussumieri Dum. and Bibr.*, an inhabitant of the hill forests, uses the lateral expansion of skin as a "parachute" in supporting its mid-air leaps from tree

to tree. The sexes in this lizard differ. The ground long-limbed Lizard, *Sitana ponticeriana Cuv.*, occurs throughout the State, the male during the breeding season developing a coloured gular sac. The Tree Lizard, *Salea horsfieldii Gray.*, is rather rare in Mysore and the next genus *Calotes* is, however, widely represented. A crest of dorsal spines running from the neck downwards will distinguish it at once. The commonest member is *C. versicoldr Daud.*, the males of which species are the larger and become brightly coloured in the nuptial season. This lizard and its relatives have the habit of nodding their head when alarmed. Other species occurring in the State are *C. nemoricola Jerd.*, *C. ophimachus Merr.* and *C. ellioti Gunth*, which are met with both in the plain country and in the woods. All the Tree Lizards are diurnal in their habits and are insectivorous. *Charasia dorsalis Gray.* and *Ch. blanfordiana Stol.*, are Rock Lizards with a depressed body, occurring at all elevations. The male of the latter species has a red head and a black body, limbs and tail during the pairing period. People in the country-side report the occurrence of a lizard which can expand its body and is dreaded by them for its "poisonous qualities." It is possible that this lizard is the S. Indian Monitor (*Varanus bengalensis Daud.*) which is nocturnal in its habits, and is said to attain 2½ ft., exclusive of the tail. The true lizards (Fam.: *Lacertidæ*) may be distinguished by the presence of symmetrical shields on the head, the skin of the body being devoid of osteoderms. The two genera *Cabrita* and *Ophiops* are represented in Mysore by *C. leschenaultii M. Edw.*, *O. jerdonii Blyth.* and *O. beddommi Jerd.*, haunting arid waste lands. In the former species, the lower lid of the eye possesses a large transparent "window," which in the latter, is permanently welded to the aborted upper lid, an adaptation for protection against sand in which they live. In the skink, of the genus

Mabuia, one of the group of the next family, *Scincidæ*, for example in the form, *M. Carinata Schneid.*, the lower eyelid is considerably enlarged and covers the whole eye when it scuds along or hides in sand. *M. beddomii Jerd.* is another example of skink, with red or scarlet tail, met with in Mysore. In the other group of skinks, *Gen. Lygosoma.*, of which there are about four species which inhabit sandy situations and have burrowing habits, the body is elongate and the limbs poorly developed. The Chameleon, *Chamoeleon calcaratus Merrem*: (Fam.: *Chamæleontidæ*), known for its power of changing the colour of its skin, is the most specialized among the lizards and is a dweller of the wooded tracts. Its digits, arranged in groups of two and three, its clutching round tail, the long projectile range of its tongue and the independent action of the eyes are some of the adaptations which the animal has developed as a result of arboreal habits.

Snakes are only lizards which have lost their limbs and girdle bones, chiefly owing to gliding motion and to habits of insinuating themselves into holes, and they have also a specialized swallowing apparatus by which they can swallow prey much larger than the girth of their own bodies. A poisonous snake differs from the non-poisonous form in possessing a gland which secretes the poison, conveyed by a duct to a grooved or canaliculated tooth called a fang. There is no external criterion by which one can tell, except through a wide and intimate acquaintance with the ophidian life, a poisonous species from an innocuous form and an examination of the dentition is the only basis of determination. The burrowing families, *Typhlopidæ* and *Uropeltidæ*, are a most primitive race, in that they possess, like the *Biodæ*, remnants of pelvic bones and must have taken to subterranean life very early in the course of the evolution of the Ophidia. There are three species of Typhlops, *T. braminus Daud.*,

T. beddomii Blgr. and *T. acutus Dum. and Bibr.*, occurring in the State and they are all worm-like burrowing creatures. The other family, *Uropeltdiæ*, is represented by several species of the genus *Silybura* and one of the genus *Melanophidium*. The Boas in Mysore are the rocksnake, *Python molurus Linn.*, *Gongylophis conicus Schneid.*, a comparatively inoffensive snake which Boulenger describes as of a "fierce temper," and the burrowing snake *Eryx Johnii Russ.* It is possible that *Xenopeltis unicolor Reinw.* may also be found. The *colubrinæ* which are fangless (Aglypha) are an inoffensive group like the foregoing and species belonging to the genera *Xylophis*, *Lycodon*, *Abalabes*, *Oligodon*, *Zamenis*, *Coluber*, *Dendrophis* and *Tropidonotus*, constitute the main ophidian life in the State. *Lycodon aulicus Linn.* is a striped snake which turns up in houses and the useful role it plays by destroying the vermin in the house is usually forgotten in dealing with it. It simulates the colour of the deadly Krait. The rat snake, *Zamenis mucosus Linn.*, is another example which suffers for imitating the Cobra and no greater friend of humanity suffering from rat pests really exists. *Dendrophis pictus Gm.*, the palmyra snake, is a typical arboreal form, which by energy and aggressiveness, makes up for lack of poison. *Tropidonotus stolatus Linn.* is the common grass snake and *T. piscator Schneid.* is the pond and river snake and *T. plumbicolor Cantor* is the thick green snake met with in old brick heaps or mounds of earth. The group *Dipsadinæ* possess a fang in the rear of the upper jaw, and hence constitute the series Opisthoglypha and the genera *Dipsas*, *Dryophis* and *Cerberus* are represented by a few species. *Dryophis mycterizans Daud.* is the common green whip snake, which is popularly believed to strike the eye. Its green colour, harmonizing with the foliage amidst which it lives, is an example of protective colouration. *Cerberus rhynchops Schneid*, which

lives in the marshy portions of the Cauvery, has none of the gentle disposition attributed to it by certain authors. The sub-family *Elapinæ* (Series Proteroglypha) comprises the most deadly species like the Krait, Cobra, and Coral Snakes. The common Mysore or S. Indian Krait (*Bungarus Cæruleus Schn.*), rare because of its shy disposition, is recognized by the dorsal median row of hexagonal scales, which are larger than the neighbouring ones. The latter are fifteen around the body These characters coupled with a blackish or bluish black ground colour with transverse white bands, would be sufficient diagnosis. The scales underneath the tail are undivided. One ought to look to the scalation and teeth instead of colour for identification. As widely prevalent as the Krait, is the Cobra, *Naja tripudians Merr.*, whose hood and 'spectacle mark' ought to be sufficient to identify this species. The Coral Snakes, easily recognized by the red on the under-surface of their body, are confined to the hill tracts, where the common form is *Hemibungarus nigrescens Giinth. Callophis trimaculatus Daud.* is a rare snake in Mysore. The open groove of the fang of the *elaphinæ* becomes a closed canal in the family *viperidæ* (Solenoglypha) which includes the Daboia or Russel's Viper, (*Vipera russellii Shaw.*) whose magnificent scheme of colour is a sufficient means of identity.

Russel's Viper grows to about four feet in length. It is considerably thicker than the cobra, though it is of sluggish habits. Daboia, Krait and Cobra are most destructive to human life and cattle. The saw-scaled viper, *Echis carinata Schneid*, common in Mysore, is recognized by the carinate scales on the flank and a cruciform white mark on the head. It rarely exceeds two feet in length but is very fierce and venomous. The Pit Vipers, or sub-family *Crotalinæ*, are represented in the Malnād area and the hill forests by species like *Ancistrodon hypnale Merr.*, the Hump-nosed Viper,

Trimerisurus (*Lachesis*) *anamallensis Gunth*, *T. strigatus Gray*. and *T. gramineus Shaw*. The *Crotalinæ* may attain a length of three to four feet in some cases and inflict furious bites setting up severe constitutional disturbances, but these do not generally lead to a fatal termination.

V. Amphibians.

Introduction. As a class the amphibians are less numerous than any of the foregoing groups and fishes. Biologically they are interesting from the fact that several features of their internal organization disclose a piscine descent and in turn they have been the ancestors of reptiles. Most members of the phylum pass through an interesting stage of larval development, at which the young possess both gills and lungs, which are however permanent only in some of the primitive orders.

Order *Ecaudata*. The tail-less four-footed Batrachians, like Frogs and Toads, constitute this order and the family *Ranidæ* is the most comprehensive one. The green tank frog, *Rana hexadactyla Less.*, inhabits situations which do not dry up in the hot weather. This and its near relative *R. tigrina Daud*, or the Bull Frog, attain a very large size. There is more than one variety of this latter species in Mysore, *e.g.*, *R. tigrina* (*var*) *crassa Jerd.* The commonest form which sometimes visits the street gutter is *R. cyanophlyctis Schneid.*, which is a concert-giving frog. All these three species have a habit of running or jumping over the surface of the water as on land, when alarmed. In the paddy fields and near about the adjacent water-courses occurs a green frog known as *R. limnocharis Weigm.* and after a heavy shower of rain, a fat member of the same genus, *R. breviceps Schneid.*, comes out in the night to breed in the improvised pools and disappears before morning. This is a powerful digger. In the

Malnād tracts, the chief representatives of this tribe are *R. curtipes Jerd.*, easily recognized by its grey back and black sides and limbs and *R. leptodactyla Blgr.* The hill forests contain *R. dobsoni Blgr.*, *R. beddomii Gunth.*, *R. malabarica Dum.* and *Bibr.* and *R. temporalis Gunth.* An equally large genus is *Rhacophorus*, which includes the "chunam frog" *Rh. maculatus Gray.*, met with in the plantain trees and occasionally on the walls of houses. This species and its relatives *Rh. pleurostictus Gunth.* and *Rh. malabaricus Jerd.* construct a kind of parchment nest for the reception of their eggs. The enormously large black tadpoles, met with in shoals in the tanks and rivers in the Malnād districts, are the young ones of *Rh. pleurostictus.* The hill forests are the head-quarters of a race of tiny frogs of the genus, *Ixalus.* The larvæ of some species of this genus resemble the young ones of the foregoing genus and in both genera the adults have digits which possess discs with which they can cling to vertical surfaces. The commonest members, of about half a dozen species of this genus which can be noted in Mysore, are *I. variabilis Gunth.* and *I. glandulosus Jerd.* Other genera with similar discs are *Micrixalus* and *Nyctibatrachus* and we find forms like *M. saxicola Jerd.*, *M. fuscus Blgr.*, and *N. Major Blgr.* near the shady mountain streams of ever-green forests or *kans.* A new variety, *N. sanctipalustris modestus Rao*, is recorded from Shimoga.

The family *Engystomatidæ* is characterized by a narrow toothless mouth and possesses a digging appa-ratus on the heel. They are thoroughly terrestrial and leave their places, some of them at any rate, only after very heavy showers. The one whose cry is loudest is *Cacopus systoma Schneid.* It is common in the plain country. The male has a very large vocal sac. *Micro-hyla rubra Jerd.*, which has a stout habit like the pre-ceding species, is rare. *M. ornata Dum. and Bibr.* is the

most widespread example of the whole family. Large shoals of transparent tadpoles with flagellate tail seen in the tanks between the months of May to October belong to this frog. The cry of the two *Microhyla* is a low whistle. *Kaloula variegate Stolic.* is met with in the ant-hills and produces a low plaintive voice "qhuay," "qhuay," uttered at regular intervals, from a direction which also changes as the listener turns this side or that. *K. obsecura Gunth.* and *K. triangularies Gunth.* are other species with similar habits, found in Mysore. Another extremely little frog, new to Science, *Ramella symiotica Rao*, has been recorded from Bangalore.

The toads, Fam.: *Bufonidæ*, also toothless, are terrestrial forms, with a dry warty skin. A bean-shaped gland on either side of the neck is more or less prominent. The thick musky humour secreted in this gland confers on toads immunity from all enemies except the cobra. The house toad, *Bufo melanostictus Schneid.*, which is the largest of the Indian toads, may be seen towards evening greedily swallowing the winged termites, which leave their burrows in dense masses or enjoying a bath under the tap. It enters the tank during the breeding season, and lays eggs in double strings round about the grass and weeds near the margin. The young ones, which are extremely tiny, leave their hiding places and come out in thousands soon after the rains, thus accounting for the popular belief that "it has rained frogs." *B. fergusonii Blgr.* and *B. microtympanum Blgr.* are other forms found in the open country and *B. parietalis Blgr.* and *B. pulcher Blgr.* are confined to hill forests. The toads in the fruit gardens do excellent service by destroying earthworms and all noxious insects.

Order *Apoda*. The limbless batrachia are worm-like burrowing animals restricted to the dense moist hill forests, about whose habits practically nothing is known. Five species

belonging to the three genera *Iehthyophis Gegenophis* and *Uraeotyphlus* are known from S. India and it is likely that *U. Oxyurus Dum.* and *Bibr.* is found in Mysore, possibly also *I. glutinosus Linn.*, *I. carnosus Bed.*, *U. malabarica Bed.* and *U. menoni Annand.*

VI. Fishes.

Introduction.

The river Cauvery with its principal affluents like the Lokapavani, Shimsha, Arkavati, Lakshmanathirtha and Kabbini: the Thunga and the Bhadra, the Sharavati and numerous smaller streams which form the upper reaches of the Pennars and the Palar, together with some of the magnificent artificial tanks, abound with excellent fish.

Order *Physostomi*

The Cat-fishes, so called because of the barbels fringing the mouth, form the well-known family *Siluridae*, most members of which inhabit the tanks where in the hot weather the waters become both muddy and foul. *Clarias batrachus Linn.* (the Anai meenu of fishermen), so called because of its amphibious life, is the most common fish whose flesh is considered nourishing and invigorating. *Saccobranchus fossilis Bloch.* (Thelu meenu) is prescribed for convalescents for its nourishing qualities and is equally amphibious. Its pectoral spine is dreaded by fishermen as causing poisonous wounds. *Wallago attu Bloche.* and *Schneid.* (Balai-meenu) inhabits rivers and tanks, where it is most destructive to the smaller species. This predaceous form is said to attain 6 feet—four foot specimens are common, and are good eating. All these are foul feeders. The Butter fish (also known as Pafta) *Callichrous bimaculatus Bloch.* is greatly prized for its fine qualities and the larger tanks and rivers abound with it. Another fish equally liked for its excellent qualities is the Lady fish, *Psudotropius atherinoides Bloch.*, inhabiting the bigger tanks. *Macrones* (Jella) is

common in tanks and rivers and is employed as food by the poorer classes though the fish itself is of inferior quality. *M. vittatus Bloch.* (Jella) is a small species, but extremely common. According to Day, this fish is called "Fidler," because it is supposed to make a noise when irritated. Its musical power is, however, limited to a whirring noise which it can produce. The irritable temper attributed to *vittatus* enables them to attack fish of larger size. The fishermen dread the pectoral spine of *M. cavasius H.B.* (nar jella) and prize *M. aor H.B.* a three-foot specimen of which was recently obtained from the Thunga. *M. punctatus Jerd.* (Sholang Kellatte) is common in the Cauvery and *M. oculatus Cuv.* has been taken from the Kabbini. Both these forms are netted when the river is low, and brought to the market in numbers. *M. keletius C. and V.* is a form familiar in the Thunga river; from the same source may be obtained *Rita hastata Val.*, which is believed to live out of its element for a long time, thus permitting its being carried in a fresh condition over long distances. Poorer classes eat this fish. It is likely that *Bagarius yarrellii Sykes.* is found in the large rivers of Mysore. According to Day, it takes a live bait but is difficult to kill. Partly because of its size and veracity and partly because of its under-hung mouth, this form is often termed a fresh-water shark. The genus *Glyptosternum* is adapted for a life in rapid streams, by the development of an adhesive apparatus on the under-surface of the body. The species *G. lonah Sykes.* and *G. madras-patanum Day*, which occur in the Cauvery and the Bhadra, are never in demand on the market.

The Carps, Fam.: *Cyprinidæ*, differ from the Cat-fishes in possessing a toothless mouth. They both constitute the main fish fauna of our tanks and rivers. The Loaches (Marlu Meenu) are the principal destroyers of mosquito larvæ and being small, are usually angled

for. *Botia sp.* obtained from the Thunga is likely to prove new to science and *Nemachilicthys sp.* (named *N. Shimogensis Rao*) taken from the same source may be another new species. *Lepidocephalicthys thermalis C. and V.* is, like the genus *Nemachilus*, the commonest loach. There are nearly half a dozen species of *Nemachilus*, of which the most familiar forms are *N. evezardi Hav.*, *B. beavani Gunth.*, *B. denisonii Day*, and *N. pulchellus Day*, all known from Shimoga. It is likely that *Homaloptera* or Stone Carp may occur in the Thunga and the Bhadra. The stone *ophiocephalus* or *Garra lamta H. B.* (Pandi pakke or Rathi koraka) is adapted by its ventral sucker for a life in rapids and the forms inhabiting the tanks show a degeneration of this adhesive apparatus. This is a foul feeder and is the food of the poorer classes. There are at least more than two new species and one new local race of this fish in Mysore. Two new species of Garra, *G. bicornuta Rao* and a new variety of *G. jerdonia brevimentali Rao*, have also been found in the State. The group *Labeo* derives its name from the thickened tuberculated lips, continuous at the angle of the mouth, and to some extent resembles the snout of the suinae; hence the Muhammadans do not touch this and the previous genus. *Garra Labeo calbasu H. B.* abounds in tanks where it is essentially a bottom feeder, and fairly popular in spite of its numerous bones. *L. potail Sykes.*, *L. kontius Jerd.* (Handi Kurlu), *L. boggut Sykes.*, *L. boga H.B.* (Mada Kurlu) and *L. ariza H. B.* are some of the examples met with in the rivers and most of these are common on the markets of Mysore and Shimoga. *Cirrhina* and *Scaphiodon*, both known as Aruju, are not esteemed as food except by the poorer classes. *C. Cirrhosa Bloch.*, *C. reba H.B.* and *S. brevidorsalis Day* and probably also *S. nashii Day* inhabit tanks and rivers, where they are baited and netted. It is not certain if *Catla catla H.B.*, which is greatly

esteemed, is found in the Cauvery, where forms like *Ambly pharyngodon melettina C. and V.* (paraga) and possibly *A. mola H.B.* are equally common. Yedatore, Chunchankatte and Ramnathapur are famous for *Barbus* (Pakke) and some of the brilliantly coloured forms are found in the Cauvery and the limpid water of Moti Talab (Pearl Tank). The Sharavati contains forms which exhibit great individual variations, chiefly in the examples taken above and below the Fall. Over twenty-two species of this wide genus occur in the State and the "mahseer," *Barbus tor H.B.* from Sharavati is justly famous like *B. neilli Day*, from the Thunga and the Cauvery. The fishermen employ the term "pakki" in a generic sense and its application to forms like *B. sarana H.B.* (Gid pakke), *B. parrah Day* (Pith pakke) and so forth, has reference to particular features like size, colour or edible qualities. The paraga or paraga pakke of fishermen is *Nuri* (*Esomus*) *danrica H.B.*, which abounds in all ponds and tanks and as a surface feeder is a valuable agent in destroying mosquito larvæ. Perhaps equally useful in this direction is *Rasbora daniconius H.B.* (Jubbu) common in garden wells and irrigation wells and irrigation channels. *Rhotee neilli Day*, *R. cotio H.B.* and *R. Ogilbii Sykes.*, which rarely exceed 5-6 inches, are not esteemed as food except by the more indigent classes. They are common in the Thunga. The occurrence of *Danio* in Mysore is more than probable. The genus *Brailius*, represented by at least two species *B. bendilisis H. B.* and *gatonsis C. and V. Chela* (Kende Meenu), occurs in greater profusion, at least six species being known. The individuals of several species of the genus obtained from different sources vary widely and examples like *C. argentea C. and V.* (White carp), *C. clupeoides Bloch.* and *C. bacalia H. B.* are in some demand in the local markets.

The herring family, *Clupeidæ*, is marine but experiments

on *Clupea ilisha H.B.*, the 'Hilsa' (*palasa meenu*), ought to be of more than ordinary interest to a State like Mysore with its rich network of broad rivers.

The two species *Notopterus Pallas Razor, or Knife Fish* and *N. chitala H.B.*, which represent the family *Notopteridæ* (walka thattai), thrive in great profusion in the larger tanks and rivers and in spite of numerous bones, they are greatly esteemed as food. *Chitala* attains four feet and this and other species are extremely wary in taking a bait.

The family *Cyprinodontidæ* is represented by the tiny little fish *Haplochilus melanostigma McClelland*, frequently entering the inundated paddy fields. This form is a surface feeder and is an effective agent in the destruction of mosquito larvæ. The colour of this species varies according to the surroundings from which it is obtained. It is probable that *H. lineatus C. and V.* also occurs in Mysore. *Belone cancila H.B.* (Kale holaya) belonging to the family *Scombresocidæ*, occurs in our rivers but is not greatly esteemed as food. Its elongated toothed jaw is used by the barber surgeon for opening wounds and ulcers.

Order *Acanthopterygii*.

The order *Acanthopterygii* is largely marine except for a few species of the genus *Ambassis* and some other families. *A. nama H.B.* and *A. ranga H.B.* are common in the rivers of Mysore and both species vary either with age or with the surroundings, in which they live. It is more than doubtful if *Nandus nudus H.B.* occurs in Mysore. But two species of the family *Rhynchobdeillidæ*, *Mastacembelus pancalus H.B.* and *M. armatus Lacep.* (havoo meenu), are found in rivers and tanks. The latter example attains more than two feet and the body is cylindrical or eel-like. It is prized as excellent food, especially when it comes from the rivers. Members of the family *Ophiocephalidæ* coming from the

same source, *viz.*, rivers, have an equal value. About half a dozen species of *Ophiocephalus* (Murrel or snake-heads) inhabit the rivers and tanks within the State. They are amphibious and can live outside the water for a considerable time, and their breeding habits are interesting. They construct a crude nest in the clearings of coarse grass or rushes near the weedy margins of tanks and are strictly monogamous. The young of some forms like *O. striatus Bloch.* are brilliantly coloured with orange and those of *O. punctatus Bloch.* have a metallic band across the body. They breed twice in the year almost corresponding to the two monsoons. The true murrel, *O. marlius H.B.* (marua), is common in Shimoga and both *striatus* and *puntatus* (kuchu meenu) are plentiful in Bangalore. *Oleucopunctatus Sykes.* (soovara or hoovu meenu) and *O. gachua H.B.* (Korve) are known from Mysore. The former species, which attains nearly three feet, commands an excellent market. The occurrence of *Polyacanthus cupanus C. and V.* (thabutte) Fam: *Labyrinthici*, in the Mysore rivers, is more than doubtful, but at least two species of the genus *Etroplus* of the family *Cichlidæ*, often designated as Chromides, inhabit Mysore. *E. suratensis Bloch.* (bachenake meenu) easily takes a bait. Larger forms of this species grow a foot or more, and afford excellent eating.

VII. Elephant Kheddahs.

Pit method.

The pit method of capturing elephants in Mysore on a wide and systematic scale owes its origin probably to the failure of Hyder Ali in his operations in the Kakankote Forests to surround and secure large herds, which in his time must have proved valuable military adjuncts. The presence of pits in Ainurmarigudi, Methikoppe Veeranhosahalli and Chamarajnagar State Forests in Heggaddevankote, Hunsur and Chamarajnagar taluks

bears testimony to the popularity of this system. It continued to be employed in an organized manner up to 1898. The number of elephants captured during the period. between 1878 and 1898 is reported to be 138 which is certainly a large prize. The system in vogue of catching elephants was not an elaborate one. Pits were artfully disposed along routes frequented by wild elephants, or near about the pools and trees which they love to visit, and being lightly covered over by a network of bamboos, leaves and earth, were speedily overgrown with grass after the early showers, so as to remove all causes for suspicion. The excavations (usually $10\frac{1}{2}' \times 7' \times 12'$) were purposely made tight-fittings to prevent the captives from digging in the sides and make a way out. It is astonishing that animals, usually so cautious, saw nothing to rouse their suspicion and precipitated themselves into the pits, damaging their limbs or receiving some permanent internal injury. The Sholigas and Kurubas, who generally supervised these operations, visited the pits both in the morning and evening during the elephant season, usually after the monsoon, and carried the news of the fall to the base camp, where the tame elephants were stationed. When the captive elephants fairly completely filled the pits, there was no space in which to throw fodder and there was absolutely no means of watering them and the period which elapsed between the fall and the rescue was usually one of starvation for them. After noosing the captive with the help of the *Kumkies* (or tame elephants), the pits which by now would be slightly enlarged by the struggles of the captive beasts, were filled in with twigs, leaves and other rubbish, with the result that the animals elevated themselves automatically. Sometimes, as in British India, the pit was, as a precautionary measure, surrounded by an improvised stockade, which, however, was usually dispensed with.

This is but a general outline of a method which, on account of the cruelty involved, is very rarely resorted to in Mysore at the present day, still flourishes in South India and Malabar, with such variations in the details of operations as local conditions may call for, but in all cases usually attended by unspeakable horrors.

Kheddahs

The earliest reference to the Kheddah operations in Mysore is the unsuccessful campaign organized by Col. J. L. Pearse in 1866-67 in the Kakankote forests, not far from the site of the present Kheddah. The failure of his attempt would appear to be due to the inexperience of the men with whom he had to deal, the occurrence of an accident which scared away the herd and the arrival of hot weather, which forced the elephants of these parts to take shelter in S. Coorg, Wynaad and the bases of the Nilgiris. By employing the method prevalent in the Government Kheddah Establishment in Bengal, the late Mr. G. P. Sanderson successfully planned a campaign, which resulted in 1874, in the capture of a herd of fifty-three elephants, which had escaped the operations of 1873. The system consisted in surrounding the herd or herds in their covers, on information being brought to the hunters by the party of trackers, who were sent early in the season to locate them. By establishing a guard of sentry all round, it was impossible for the herd to break through, for all attempts on the part of the enclosed captives to approach the ring of patrol would be met by shouts and noises from which they promptly retired. During the day time, when the elephants gave no trouble, a few men would be drawn from the watching line to construct the Kheddah in the enclosure itself. The Kheddah, or the ring stockade, was placed on one of the beaten paths frequented by the herd in the surround, and two diverging wing stockades or funnel would lead out from the drop down of the Kheddah. On the

completion of the construction, leaves and branches of trees were used in screening the posts and gates. Once the herd was set on this track, the funnel into which they were continually driven from behind and from the flanks, led them to the gate, which they were forced to enter by shouts and blazes of fire behind. The door of the Kheddah was then dropped by cutting a small cord which secured the controlling rope and the *Kumkies* or tame elephants were then entered into the stockade to help in roping the wild captives.

Mysore system.

The Mysore Kheddah system differs from the Bengal method in several points. The herd is driven from long distances till finally the elephants enter by one of the gates, a large enclosure (Kheddah) protected by a deep trench all round, except at the entrances. The funnel leading out from one of the gates and the roping enclosure with a platform from which to witness the roping operations are constructed later. Herds may also voluntarily enter the Kheddah.

The following table shows the number of Kheddahs in the State :—

Taluk	Kheddah	Remarks
Chamarajnagar	1. Karadihalla	Not used.
	2. Neeldurgi	
	3. Boothepadaga	
Nanjangud	4. Naganpur	Not used.
Heggaddevankote... ...	Kakankote—	
	5. Number i Kheddah ...	
	6. do ii do ...	
Shimoga	7. Sakrebyle	
Narasimharajapura ...	8. Hebbe	Not used.

Statistical table of captures.

The following table shows the number of captures made in the several operations since 1894, and the amounts realized from the sale of elephants:—

Year of Operation	Captures	Casualties	Number Sold	Number Disposed of otherwise	Amount Realized
					Rs.
1891-95	57	12	45	...	38,245
1895-96	33	...	26	7	23,032
1896-97	170	52	79	39	82,990
1897-98	27	...	23	4	27,235
1905-06	87	8	58	21	84,165
1909-10	92	13	61	17	1,07,505
1911-12	22	4	18	...	27,575
1913-14	109	32	66	11	1,25,250
1917-18	33	4	9	20	14,950
Total ...	630	125	385	119	5,30,917
Average ...	70	14	43	13	1,379 approximately

The average price of an elephant would be, according to the above total, Rs. 1,379. About 60 per cent of this amount would be the cost of operation, calculated on a single head, and 20 per cent the cost of maintenance, till the elephant is put on the market, assuming that any of the old Kheddahs, with such repairs as they may need, are used in the capture.

In Mysore, the operations are generally undertaken to provide relief to the harassed raiyats, whose cultivation is destroyed by the elephant, or they may be ordered to provide entertainment to distinguished State guests. Some of the elephants captured on these occasions are reserved for the use of the Palace and the Forest Department.

VIII. Game Law.

(*a*) General Outlines.

The Mysore Game and Fish Preservation Regulation.

The necessity for a Game Law having been pressed upon the Government by both planters and sportsmen, principally to prevent the indiscriminate destruction of

useful species of animals and birds, Regulation No. II of 1901 was passed on 8th April 1901. The legislation is based both upon humane and utilitarian considerations, inasmuch as it does not attempt to extinguish the immemorial rights of the people to kill game for food or sport or to create any monopoly in animals and birds in a state of nature for the benefit of Government or of sportsmen. To ensure the due propagation and perpetuation of useful species of game and fish, the Regulation provides for the protection of such species with reference to time, place, sex, growth, manner of killing and the implements of destruction. It also empowers the Government to afford absolute protection to specified insectivorous birds and to animals and birds whose killing would be unsportsmanlike or viewed with popular disfavour. By rules framed under the Regulation, the killing of animals and birds for the commercial value of their skins and plumage has been regulated by means of a system of licenses or prohibited altogether in the case of particular kinds of animals or birds either for a certain time or within a certain area.

Fishing in any stream or tank has, in like manner, been controlled, together with the poisoning of the water, the use of explosive or other deleterious substances thereon and the capture of fish by fixed engines and nets of a mesh below a certain size.

A season in the year has been fixed for the killing or capture of game or fish and the killing has been prohibited absolutely as regards both mature specimens and the young of either sex of specified descriptions of game.

By Section 12 of the Regulation, a general exception has been made in the case of an owner or occupant of land who may kill, capture or pursue game doing damage to any growing crop.

(*b*) DEFINITION OF "GAME."

The term "Game," as defined in Section 2 of the Regulation, means antelope, ibex, jungle-sheep, sambhar and all other descriptions of deer, bison, hares, jungle-fowl, spur-fowl, pea-fowl, partridge, grouse, quail, wood cock, bustard, florican, duck and teal and includes such other animals and birds as may be notified by Government to be "Game."

(*c*) PENALTIES UNDER THE REGULATION AND THE RULES THEREUNDER.

Every offence against the provisions of the Regulation and the Rules thereunder, is punishable by a fine not exceeding Rs. 100.

Elephants (Madras Act No. I of 1873).

Madras Act No. I of 1873, extended to the Mysore State, in May 1874, prohibits, subject to the exception noted below, the destruction of wild elephants, whether on Government property or not. Wild male elephants may be destroyed (*a*) on private estates by the proprietor or a person authorized by him, (*b*) on waste or forest lands, the property of the Government, by a person holding a license issued by the Deputy Commissioner under rules framed by Government.

The license is tenable for one year after the expiry of which, unless renewed, it becomes void. Conviction for an offence under the Act entails forfeiture of the license.

The Act does not prohibit the destruction of wild elephants, male or female, found upon cultivated lands or in the vicinity of a public road, nor does it prevent any person from destroying a wild elephant, male or female, in defence of himself or any other person.

BIBLIOGRAPHY.

Mammalia.

W. T. BLANFORD.—Fauna of British India: Mammalia. Imperial Gazetteer of India, Vol. I. Chapter on Zoology.
W. H. FLOWER AND R. LYDEKKER.—Mammals Living and Extinct.
W. T. HORNDAY.—Two Years in the Jungle.
T. C. JERDON.—The Mammals of India.
F. FINN.—The Wild Beasts of the World.
S. P. SANDERSON.—Thirteen Years Among the Wild Beasts of India.
COL SHAKESPEARE.—Wild Sport of India.
R. A. STERNDALE.—The Mammalia of India.
A. C. MCMASTER.—Notes on Jerdon's Mammals of India.
L. KIPLING.—Beast and Man in India.
E. INGERSOLL.—The Life of Mammals.
F. BEDDARD.—Mammalia (Cambridge Natural History.)
CAPTAIN J. FORSYTH.—The High Lands of Central India
CAPTAIN BALDWIN.—The Large and Small Game of Bengal.
W. ELLIOT AND COL. SYKES.—Catalogue of Mammalia of Southern Mahratta Country.
SIR J. FAYRER.—The Royal Bengal Tiger.
BRIGADIER-GENERAL R. G. BARTON.—Bombay Natural History Journal, December 1918.

Birds.

E. W. OATES AND W. T. BLANFORD.—Fauna of British India: Birds. Vols. I to IV.
A. H. EVANS.—Birds (The Cambridge Natural History.)
S. BAKER.—Indian Ducks and their Allies.
D. DEWAR.—Birds of the Indian Hills and Plains.
A. EHA.—The Common Birds of Bombay.
A. FINN.—The World's Birds.
J. A. MURRAY.—Indian Birds or Avifauna of British India, Vols. I to II.
T. C. JERDON.—Birds of India, Vols. I to II.
E. W. OATES.—Hume's Nests and Eggs of Indian Birds, Vols. I to III.
W. P. PYCRAFT.—History of Birds.
D. DEWAR.—The Indian Crow.
FAIRBANK.—Stray Feathers, Vols. I to V.
D. DEWAR.—Glimpses of Indian Birds.
A. HUME AND C. H. T. MARSHALL.—Game Birds of India, Burma and Ceylon.

Reptiles and Amphibians.

H. GADOW.—The Cambridge Nat. History, Vol. VIII, Amphibia and Reptilia.
G. A. BENLENGER.—Fauna of British India—Reptilia and Batrachia.
J. T. CUNNINGHAM.—Reptiles, Amphibians and Fishes.
LT.-COL. W. WALL.—The Poisonous Terrestrial Snakes of our British Indian Dominions and How to Identify Them.
SIR J. FAYRER.—Thanatophidia of India.

Fishes.

F. DAY.—Fauna of British India: Fishes. Vols. I to II.
F. DAY.—Fishes of India. Text and Plate.
F. DAY.—Fishes of Malabar.
G. A. BENLENGER AND T. W. BRIOGE.—The Cambridge Natural History, Vol. Fishes, etc.
THOMAS.—Tank Angling.
THOMAS.—Report Pisc. S. Canara.
THOMAS.—Rod in India.
HAMILTON BUCHANAN.—Fishes of the Ganges.
R. B. S. SEWELL AND B. L. CHAUDHURI.—Indian Fish of Proved Utility as Mosquito-Destroyer.
G. A. BENLENGER.—Cat. F. W. Fishes of Africa, Vols. I to III.
SKENE DHU.—The Mighty Mahseer and other Fish.
D. S. JERDON.—Guide to the Study of Fishes, Vols. I to II.
MAX WEBER AND DE BEAUFORT.—Indo-Australian Fishes, Vols. I to II.

Kheddahs.

COL. J. L. PEARSE.—Report on Kheddah Operations, 1865-67.
G. P. SANDERSON.—Thirteen Years Among the Wild Beasts of India.
J. D. REES.—The Duke of Clarence and Avondale in Southern India, Chapter IV.
K. SHAMA IENGAR.—Report on the Working of the Kheddah Department, October 1899.
Annual Reports of the Mysore Forest Department, 1874-1924.

CHAPTER VI.

ETHNOLOGY AND CASTE.

Pre-historic races.

LITTLE definite is known of the earliest inhabitants of what is now the Mysore State. Stone monuments found in various parts of the State point unmistakably to the existence in pre-historic times of races of people about whom we have still to learn much. Until a proper pre-historic survey is undertaken and carried out, we have to rest content with the scanty glimpses we can get of them from the researches of the few investigators who have so far unearthed their remains. Palæolithic man in Mysore, as elsewhere in Southern India, was, comparatively speaking, a rude personage. His remains, mostly chipped stone implements, have been found embedded in Pleistocene deposits. Among the places where these have been found in the State are:—Karadi Gudda near Banavar; Talya in Holalkere Taluk; Jyankal in Hosdurga Taluk; Nidaghatta near Sakrepatna, Kadur Taluk; Lingadahalli, Tarikere Taluk; Nyamati, Honnali Taluk; Biramangala, Goribidnur Taluk, Hiriyur, and Kaldurga, Tarikere Taluk. Among the finds have been sharply pointed, oval, adze-shaped and spear-headed palæoliths; half drilled stones; celts and reddle stones ground on two sides and flakes. The people who made and used these rude implements must have died out at a low stage of culture. They appear to have been followed at a long distance of time by another race whose remains are also to be found in the State. These are the people of what is termed the Neolithic Age. They are represented by implements and weapons (in much greater form and variety) made by chipping and subsequently grinding and polishing suitably hard and tough stones.

The art of making pottery had been discovered as also that of drilling stone and other hard materials. The tools used in preparing implements, both warlike and industrial, were still predominantly stone ones. Of the places where remains of this age have been found in the State are West Hill, French Rocks, Seringapatam and Srinivaspur in the Kolar District. Among the objects made by Neolithic man are celts, hammer stones, corn crushers, etc. From the very few specimens of this age unearthed in the State, it is clear that much remains yet to be done in the matter of a systematic survey of the kind already suggested. The direct descendants, probably of the Neolithic people, were the people of the Iron Age, whose remains are found widely scattered over the State. In this age, stone implements were almost entirely displaced by iron ones, the art of iron smelting having been discovered and the use of iron implements having, from their great intrinsic superiority and the far greater facility of their manufacture, spread very rapidly. Wheel-made pottery had come into general use, and many other metals besides iron had begun to be worked. The arts generally made great advance during this period. Among the places in the State in which remains of this age have been so far found are the following:—Srinivaspur, Kolar District; North Bank of the Cauvery opposite the Narasipur Sangam; Lakshampura on the Cauvery; Holakal Hill, Sira Taluk; Banvali, Channapatna Taluk; Talya, Holalkere Taluk; Kotigehar, Mudgere Taluk; Jala near Bangalore; Anaguttahalli, Mysore; Savandrug, etc. There is no reason to believe that the Neolithic man of Mysore differed much from his brethren outside of it in Southern India. From the remains he has left behind, we gather something of his culture, the fashion of his garments, the kind of ornaments he wore, the arms and implements he carried and the animals he domesticated, chased or worshipped. Among the domestic animals he

knew were probably the following:—buffalo, cow, sheep, horse, elephant, dog and, perhaps, also pig and goat. Among wild animals, he knew the leopard, sambhar, doe, jungle fowl, bustard and perhaps also tiger, bear, bison, monkey, snake and cobra. He indulged in decorating the horns of his buffalo. Apparently buffaloes and sheep were made to look pretty with garlands and bells. Much of the pottery he made and used he ornamented with figures, from which most of our knowledge about him is derived. The idea of property in movables was possibly developed in him, for, we find his pottery containing something like ownership marks. Among the arms borne by him—some of those found in Mysore are figured by Mr. Bruce Foote in his *Pre-historic Antiquities*—are short-handled axes, swords, daggers and maces. Perhaps he also knew the spear and the bow and the arrow. His dress was by no means elaborate. He was evidently indifferent to the rigour of the high plateau climate. Both men and women wore head dresses of various shapes, mostly peaked caps with the summits hanging forward more or less, in some cases so much as to resemble closely the classical Phrygian cap. On their bodies they appear to have worn no clothes except waist cloths worn quite narrow. These clothes were of varied patterns, ringed, spotted, striped or chevroned. Necklaces, with or without pendants, were commonly worn by them, also elaborate cross belts both fore and aft. Bracelets, armlets and anklets were worn equally commonly by them. It is possible that they practised tattooing. The hair of the head was worn with very little show. There are no indications that women wore either ringlets or chignons. The men wore their beards clipped rather short, but they were apparently of thick growth. The pottery articles used by them were many and some of them striking either for their form or the elaborateness of their decoration. The commonest articles appear to

have been bowls, vases, saucers, lotahs, burial troughs, ringstands, discs, perforated vessels, platters, etc. Among uncommon articles of pottery found in Mysore may be mentioned seed-boxes used in sowing grains and other small seeds, and what appears a libation cup which is a piece of black polished ware of funnel shape, with a perfectly flat, though small, base.

Their relation to the modern population.

How are these pre-historic races connected with the people now found living in Mysore? Are the people of to-day the descendants of the older races who lived in this part of India? These are difficult questions to answer until a thoroughly satisfactory pre-historic survey of the whole of the State has been, as suggested, carried out. From the little that is now known of the older races, it is altogether impossible to say if there are any descendants of Palæolithic man in the present day population of Mysore.

Three primary ethnic elements in the modern population.

Mr. Bruce Foote inclines to the view that, while Palæolithic man has, so far as is now known, left no representatives, Neolithic man was the ancestor of the Iron Age man, from whom the present inhabitants of Southern India are in their turn descended. The evidence of Ethnology leads to the conclusion that the present population of Southern India—including Mysore—is made up of at least three primary elements:—

(1) Pre-Dravidian including the forest and hill tribes (under which head would come the Irula, Kadu Kurubas, the Sholigas and the Kadu Gollas of the Mysore State) and forming a population entirely distinct from the Dravidians who form the bulk of the population;
(2) Dravidian; and
(3) Aryan.

There has been much speculation as to who these Pre-Dravidians are and when and how they reached their present habitat. Similarly in regard to the Dravidians,

opinion is still divided as to whence they came from and when. As regards the Aryans, their descent into the south and the extent of the influence they exerted on the people amidst whom they settled are still matters of keen discussion among the learned.

Anthropometry as a test of race.

This broad threefold division of the present population has been the result of a systematic Anthropometric and Ethnographic Survey carried out in Southern India, including Mysore, during the past twenty years or so. This survey was inaugurated at the request of the leading anthropologists in Great Britain by the Government of India in 1901 soon after the Census of India of that year. In accordance with the general plan then adopted, the survey was extended to Southern India, including the Native States in it. The survey included not only a systematic enquiry into the Ethnography of each of the major castes but also a detailed examination from an anthropometric point of view, of their physical characters. While the ethnographic portion of the survey in Mysore was conducted by the late Mr. H. V. Nanjundayya, M.A., M.L., C.I.E., the anthropometric part of it was carried out by Mr. Edgar Thurston, C.I.E., who was also responsible for similar work in the rest of Southern India. The defects arising out of a plurality of people undertaking work of this kind were thus avoided, and all possible accuracy was thus sought to be attained. As in what follows, the information gathered and the results arrived at by Messrs. Thurston and Nanjundayya and also by Mr. Ananthakrishna Iyer, who carried out the Ethnographic Survey of the State of Cochin, will have to be referred to and in some respects depended upon, it seems necessary to add that the deductions drawn from them should be treated as by no means final. The work of the examination—physical, lingual and ethnographic—has only been just begun and much remains yet to be done

before anything like satisfactory data can be made available for drawing scientifically accurate conclusions on the subject of the racial origins and the distribution of races that are now found to inhabit Southern India. Recent criticisms have shown a tendency to discredit to some extent the deductions drawn from the physical study of man as he is in the south of India. It has been urged, for instance, that the number of subjects chosen for measurement have been far too few to make the results arrived at unassailable. "Dr. Thurston's data," writes a recent critic, "are defective, because he has not carefully recorded the localities and the endogamous groups to which his subjects belonged. Both these points are of supreme importance. Then, again, the number of subjects measured, especially in some of the larger communities, is nothing like enough. I would suggest, too, that a few more criteria be added, *e.g.*, the facial angle, the length of the upper arm and forearm, etc." In another place, the same critic, comparing Professor Risley's examination of over 25 million subjects with the work done in India, remarks: "In the whole of India, Mr. Thurston's investigations, as recorded in his *Castes and Tribes*, total a little less than 3,000, a splendid achievement for a single-handed effort, but considerably less than one in 10,000. The number of subjects dealt with in Risley's *People of India* is not quite 12,000, or about one in 24,000 of the total population (in 1901) of 294 millions. It cannot, therefore, be said that the Anthropometric Survey of India has been exhaustive or adequate, and the data available are seriously defective in that little count has been taken of sub-caste and locality, two factors of immense importance."

The main indigenous castes and tribes and their racial affinities.

In the present state of our knowledge, however, all that is possible here is to briefly indicate the results so far achieved by the Ethnographic and Anthropometric

Surveys which have been at work in Mysore and the adjoining areas. The geographical position of Mysore has rendered it possible to be influenced by ethnic influences of a varying kind. In the north-west, it has been open to inroads of immigrants from what is now the Southern Mahratta country; on the north-east, by people from the semi-Telugu Districts of Bellary, Ananthapur, Cuddapah and Kurnool; on the east, by people from the semi-Tamil Districts of North Arcot, South Arcot, Chittoor, Salem and Trichinopoly; on the south, by people from the semi-Tamil Districts of Coimbatore and Nilgiris, which is occupied by people speaking languages allied to Tamil, Malayalam and Kannada; and on the west, by people from the District of Malabar, the Province of Coorg and the Districts of North and South Kanara. Mysore has in its turn sent out waves of emigrants into most of the districts we have noted above. Straggling Kannada-speaking castes are to be found as far south as Madura and Dindigal, the latter of which was once a Mysore possession; in Chingleput, close to Madras; in H. E H. the Nizam's Dominions and on the west, as far as Poona; and nearer home in Coimbatore and on the Nilgiris. The Badagas are, both physically and linguistically, a race of settlers from Mysore, their name (Badaga) indicating the northern direction from whence they emigrated to their present abodes. The language they speak is not so much an "organized dialect of Canarese" as Dr. Caldwell puts it, as "an ancient or rather a mediæval form of it." Dr. Caldwell considers Kota, the language spoken by the Kotas of the Nilgiris, "a very old and very rude dialect of Canarese which was carried thither (the Nilgiris) by a persecuted low caste tribe at some very remote period." Opinion is divided as to the original abode of the Todas of the same hills. Dr. Rivers, the latest writer on them, thinks they reached the hills from the Malabar country. But

there is still ample ground for assigning to them a Kannada origin. Dr. Pope, who wrote a grammar of their language, says that "their speech sounds like old Canarese spoken in the teeth of a gale of wind..... The language seems to have been originally old Canarese and not a distinct dialect. The Todas were probably immigrants from the Canarese country, and have dwelt on the Nilgiris for about 800 years." Mr. Rice, the Editor of the first and the revised editions of this *Gazetteer*, wrote connecting them with the Hale Paikas of the Nagar Malnad of this State.

Out of thirty-four dominant castes and tribes described by the Mysore Ethnographic Survey, seven are essentially Kannada in origin; twelve Telugu in origin but long resident in the State; two Tamil but settled in the State from time out of memory; eight were apparently originally Telugu, but now are partly Telugu and partly Kannada, speaking the prevailing language of the area in which they are found; one is sub-divided into sections speaking Kannada, Telugu or Tamil; one is partly Kannada, and partly Tulu; one is entirely Mahratta in origin; and one speaks a language which is a mixture of Mahratti and Guzerathi. In the castes in which a linguistic division prevails, sometimes the division is so well marked that no intermarriage is allowed between the two. This is the case among Madigas and Gollas, among whom the Kannada and Telugu speaking sections hold no connubium with each other. On the other hand, among the Upparas, who are obviously an immigrant caste, though there are sections in it speaking Telugu and Kannada, these freely intermarry. Most of the castes and tribes found in Mysore are also to be found in the adjoining British districts of Madras, and though occasionally, as notably in the case of Tiglas, they may go by a different name, a little enquiry has shown that they belong to or are part of a numerically strong caste

or tribe in Madras. The distinctively Mysore castes are exceedingly few; in fact, with the possible exception of the Gangadikara Vokkaligas, there is hardly any caste that can be termed so. The Holeyas, Besthas, Agasas, Nayindas, Madigas, Kumbaras and Ganigas, who all have nothing to show they are not indigenous to the State, have much in common with their namesakes in Bellary, Anantapur and other districts of Madras, though owing to obvious reasons they have for ages kept to themselves.

Southern India, an ethnological block.

It is, therefore, not unreasonable to suppose that the whole country south of the Krishna is ethnologically one block. Though intrusion from one side or another has been possible—especially in the case of Mysore as already stated—still such intrusion it has been possible to trace, both from the physical and linguistic points of view, and to locate and even separate to some extent. This being so, it follows that the conclusions of a physical survey—such as it has been—of this area should be taken to be of general, though not of universal, application to every part of it. As we have seen, such a complete survey is still a desideratum; that, however, need not deter us from noting the few broad generalizations to which the evidence so far gathered has led competent investigators.

The Dravidian problem.

It is now fairly established that some at least of the forest and hill tribes of Southern India, including in that term the Mysore State, represent racially a population that is distinct from the Dravidians who form the main bulk. At one time, when our knowledge of the racial origins of the people of the south was not even as great or as good as now, it was held by many, notably by Dr. Caldwell for instance, that the jungle and hill tribes and the servile castes of the south were a section of the Dravidians who had been driven to the hills or rendered servile by the rest of their own people. This theory

finds very little support, if any at all, now. Opinion favours the view that some at least of these tribes and castes belong to a race of people who, for want of a better name, have been called the Pre-Dravidian race. These include the Kurumbars, the Soligars, the Irulans, the Chenchus, the Yenadis, the Kadirs, the Kanikars, the Malai Vedars, the Paraiyans, the Paliyans, the Vedans, the Bedars and many others that may be mentioned. The Bedars have in the Canarese Districts attained to a high position in the social scale, but this is largely due to their having been in the wars of the 18th century engaged as soldiers in Hyder's armies, and later in the irregular hordes kept up by a number of *Palaigars* in Madras, Mysore, and the Southern Mahratta country. The Vedans of the Tamil country belong essentially to the same stock and in some instances the Vedans, who live by the chase, as their name would indicate, are still to be met with in the recesses of the thickest forests in Southern India. To the same stock, probably, must be traced the Veddas, really a corrupted form of the Tamil Veda and the Kannada Bedar, both meaning 'Hunter,' of the Island of Ceylon. These are so very like in appearance to the many jungle tribes of Southern India that, when Mr. Edgar Thurston of the Government of Madras saw a number of photographs of Veddahs, brought by Dr. and Mrs. Seligmann, he made the remark that he should not have known them from photographs of members of a number of Indian jungle tribes. Dr. and Mrs. Seligmann themselves state their view of the Veddahs in fairly definite terms. They write:—"We regard them as part of the same race as the so-called Dravidian jungle tribes of Southern India." Dr. Haddon also considers that this jungle tribe of Ceylon should be classed with the Kurumbars, Irulas and some other jungle tribes of the Deccan as Pre-Dravidian. This point may be taken as fairly settled, but the question still

remains to what branch of the hominidæ should we ascribe these kindred jungle tribes of South India and Ceylon. This is a point that has given rise to much discussion, but it is not yet satisfactorily settled. Much confusion has arisen in the discussion of this subject by the lax manner in which the term "Dravidian" has been used, a kind of usage that still lurks, it must be added, in the writings of even recent writers. It is convenient to reserve the term "Dravidian" to those people who racially are distinct from the Aryans on the one side, and the Pre-Dravidians, we are just discussing, on the other.

De Quatrifage's theory.

One set of writers have maintained that the Pre-Dravidians are the representatives of a submerged Negrito element that in early days found its way into Southern India. De Quatrefage was amongst the first to suggest this theory. He believed in the widespread dissemination of the Negrito race, and as time went on, his theory gained weight with many writers. Topinard speaks of the remnants of a black race as being shut up in the mountains of Central India and in the south under the name of Yenadis, Maravars, Kurumbars, Veddas, etc. Sir George Campbell says, "I take as a great division of tribes and castes the black aboriginal tribes of the interior hills and jungles. There can, I suppose, be no doubt that they are the remnants of a race which occupied India before the Hindus. They are evidently the remains of an element, the greater portion of which has been absorbed by or amalgamated with the Modern Indian race." And regarding the Pre-Dravidian race as a race of Negritos, he says that "among some of the inferior tribes of the south, the remains of the thick lips, the very black skin, and other features may still be traced; but colour, perhaps excepted, the aboriginal features are probably gradually wearing away." This theory, which had met with certain silent opposition in

certain quarters, was re-stated with vigour not long ago by Dr. Keane. His argument is best stated in his own words. After premising that "all the pre-historic movements must in fact be assumed to have set from the north southwards, so that the whole of the Peninsula was occupied during the Stone Ages, successive streams of primitive peoples descending from the Himalayan and Vindhyan slopes to the extremity of the mainland," he says:—"The first arrivals were undoubtedly the *Negritos*, whom I have called the 'submerged element,' because they now form the substratum, have nowhere preserved their racial or social independence, have even lost their original Negrito speech, and are now everywhere *merged* in the surrounding Kolarian and Dravidian populations. Whence came this black element, the presence of which I hope here to place beyond reasonable doubt? Herr Fehlinger thinks they reached India partly from Africa and partly from Australia. But I cannot believe that there are two black strains in India. One satisfies all the conditions and that one can scarcely have come either from Africa which is barred by the Indian Ocean or from Australia which is shut off by the Eastern Archipelago. Moreover, both Africans and Australians are mostly tall (five feet eight to ten inches), whereas the Dravidians and Kolarians, amongst whom black is conspicuous, are nearly all undersized—the Koravas (five feet three inches) and many Korava women real dwarfs (about four feet nine inches); the Juangs still shorter, and are five feet, women, four feet eight inches. The inference is that in India the dark autochthons were pigmies apparently allied to the Aetas of the Phillipines and to the Samangs and Sakais still surviving in the Malay Peninsula. From Malaysia these woolly-headed Negritos could easily have moved through Tennaserim and Arakan round the Bay of Bengal to the Himalayan slopes, where they have left traces of their former presence, and whence they

gradually spread over the Peninsula most probably in early Palæolithic times. Their spoor may everywhere be followed from Negroid flat-faced, curly-haired, Kocch of Assam 'with the thick protuberant lips of the Negro' to the swarthy and irregular featured Nepalese *Hayas* and thence to the numerous *Santals* of Chota Nagpur 'with a cast of countenance almost approaching the Negro type,' and to the neighbouring *Bhuniyas* (Bhumiyas) with 'coarse negro-like features and frizzly hair and the diminutive Juang jungle folk with depressed nasal bone, dilated nostrils, large mouth, very thick lips and black frizzled hair.' The kindred *Dhangars, Khonds* and *Gonds* of the Vindhyan Range 'show to this day features more closely resembling the *lower negro type* than any I have met with amongst the tribes of Bengal.' Thus speaks Dalton who knew these Vindhyan hill men well, and who adds that here we still find specimens of the lowest type of humanity; creatures who might justly be regarded as the unimproved descendants of the manufacturers of the stone implements found in the Damodar Coal Fields. These are the true aborigines, the *Asuras*, from whom a considerable proportion of the black pigment is derived that has darkened the skins of a large section of the (Indian) population. Equally unmistakable evidences of the underlying Negroid element are presented by the low caste hill men of the southern uplands. Some years ago, Drs. F. Jagor and G. Koerbin collected a great body of anthropological data from over two hundred and fifty of these aborigines representing as many as fifty-four tribes from almost every part of the Madras Presidency. Since then, the list has been supplemented by the researches of Mr. E Thurston, of Mr. H. V. Nanjundayya of Mysore and of Mr. Anantha-krishna Iyer of Cochin. We are now, therefore, in a position to speak with confidence of the general physical characteristics of these jungle peoples..... It will

suffice to say that Negroid contacts and influences are almost everywhere betrayed in the black colour, crisp or frizzly hair, broad nose, thick lips, low stature, very long arms, and other marked Negro traits of these aborigines. Thus, the Veddas of Travancore are described as all but black, with hair very black, wavy and crisp, and similar characters are attributed to the Paniyans of the Wynaad, the Kadars and Malasars of Coimbatore and Cochin, the Kurumbars and Irulas of the Nilgiris, the Malayalis, the Pallis, Shanars and Katumaratis of the Salem District, the Vellalas of Madura and above all to the Paniyans of pronounced Negro features. Dr. Keane also adduces the evidence derived from numerous recent photographs, "which also reveal" according to him "Negroid traits" in a very striking manner. Such are the Kadar men, several of the Malayan and Iruvallan women, the Izhuva and Thandapulaya groups (in Cochin). He then adds:—

"Now comes the question, how have the present Dravidian and Kolarian low castes acquired these Negroid characters which could not have been brought from beyond the Hindu-Kush or the Himalayas, where the indigenous populations have always been either white, regular-featured Aryans of Caucasic type or else yellow, lank-haired Mongols? The inference seems obvious that these Dravidians and Kolarians are a blend in diverse proportions of Asiatic intruders with the true black indigenes of the Peninsula. In other words, they acquired their Negroid characters by secular interminglings with Negrito aborigines."

If this is so, how did the original aborigines lose their own language? Dr. Keane thinks that they dropped it as they got absorbed by the Kolarians and Dravidians. Here is his theory in full:—

"Beyond the Vindhyan Range, they (the Kolarians who, according to him, came from the north-east and the Dravidians, who came from the north-west) have everywhere absorbed or replaced both the Negrito substratum and the

Kolarian indigenes. Hence it is that at present all the natives of the southern uplands—Mysore, Coorg, Cochin, Travancore, etc., speak various forms of the Dravidian mother tongue. Here again Mr. Ananthakrishna Iyer unconsciously supplies some particulars of great ethnical value. Thus, we learn, that the Nattu Malayalam speak a mixed Tamil Malayalam dialect with such a peculiar pronunciation as to be quite unintelligible to the more cultured Dravidians of the plains. In fact, their command of articulate speech is so weak that the 'defect is made up by *gestures*.' The Nayadis also speak Malayalam and pronounce it so badly that strangers 'cannot easily comprehend their speech,' and the same is true of the Pulayans, if not of all the jungle peoples without exception. All this finds its counterpart amongst the descendants of the plantation negroes, whose mother tongues have, for many generations, been English, French, Spanish, or Portuguese, yet they still continue to mispronounce or speak those languages barbarously. The phenomenon is explained by the Russian explorer, Miklukho Maclay, who rightly attributes the absolute impossibility of our imitating certain utterances in some of the New Guinea languages to 'fundamental differences in the anatomical structure of the larynx and the whole muscular system of the organs of speech in the two races' (European and Papuan). But anatomical differences imply racial differences, and thus we again see that the Cochin and other low caste aborigines now speaking broken Dravidian dialects were not originally Dravidians, but as above pointed out, a blend in diverse proportions of super-imposed Negrito, Kolarian and Dravidian racial strata."

Review of other theories.

Such is the theory of Dr. Keane in nearly his own words. While he is definite in his views and goes as far as one could in the line of argumentation he puts forward, there are writers who are inclined to be a great deal more cautious in their inferences. They are content to leave matters in a more fluid state. They are impressed with the difficulty of evolving anything like a reasonable theory out of the conflicting data available. While Dr. Keane finds unmistakable traces of a submerged Negrito element in the South Indian population,

M. Louis Lapicque finds no evidence of a race as regards purity of race to be compared, for instance, to the Negritoes of the Andamanese. Mr. M. Lapicque has been rather widely followed by a number of recent writers. Mr. E. Thurston, whose knowledge of South Indian jungle tribes is unique, and Dr. A. C. Haddon incline to favour the term "Pre-Dravidian." Mr. E. Thurston styles them the modern representatives of the Dasyus (referred to in the Hindu sacred writings and tradition) or black skinned, noseless, unholy savages. According to recent nomenclature, these Pre-Dravidians are said to belong to the group of *Melanous Dolichocephalic Cymotrichi*, or dark skinned, narrow headed people with wavy or curly (not woolly) hair, who are further differentiated from many of the Dravidian classes—Tamil, Telugu, Kannada, etc.—by shortness of stature and broad (Platyrhine) noses. That the primitive inhabitant of South India was dolichocephalic or sub-dolichocephalic is amply proved by the researches of Mr. Thurston among the jungle tribes of the Tamil, Telugu and Malayalam tracts. The table of cephalic indices published by him strikingly illustrates this point.

Racial affinities of Pre-Dravidians.

Both Mr. Thurston and Dr. Haddon agree in thinking that the Pre-Dravidians are ethnically related to the Veddas of Ceylon and the Sakais of the Malaya Peninsula. Mr. Thurston thus sums up his theory briefly in one of his recent contributions:—

"These are," he says, "strong grounds for the belief that the Pre-Dravidians are ethnically related to the Veddas of Ceylon, the Toalas of the Celebes, the Batin of Sumatra, the Sakais of the Malaya Peninsula, and possibly the Australians. Much literature has been devoted to the theory of the connection between the "Dravidians" and the Australians, partly on the strength of certain characters which the Dravidian and Australian languages have in common and the use by certain

Dravidian castes (Kallan and Maravan) of a curved or ivory wooden throwing stick called *Valia Tadi*, which is supposed to bear a resemblance to the Australian boomerang. Huxley even went so far as to say that an ordinary cooly, such as one can see among the sailors of any East India vessel in the London Docks, would, if stripped, pass very well for an Australian although the skull and the lower jaw are generally less coarse. According to Wallace, the Indo-Malaya Archipelago, comprising the islands of Borneo, Java and Sumatra, was formerly connected by Malacca with the Asiatic continent, while the Austro-Malayan Archipelago, comprising Celebes, the Moluccus, etc., was directly connected with Australia. An important ethnographic fact is that the method of tree-climbing by means of bamboo pegs resorted to by the Dayaks of Borneo, as given by Wallace, might have been written on Anamalai Hills of Southern India, and would apply equally well in every detail to the Pre-Dravidian Kadirs, who inhabit that mountain range. Still further affinities between these people and the inhabitants of the Malaya Archipelago are illustrated by the practice of chipping the incisor teeth and the wearing by adult females of a bamboo hair comb, the design on which bears a striking resemblance to that on the combs worn by some Malaya tribes. This theory received support from or is rather partially based upon the investigations of writers who have worked amongst the Sakais on the one hand and the Australians on the other. Writing of the racial affinities of the Sakais, Skeat and Blagden write, "An alternative theory comes to us on the high authority of Virchow, who puts it forward, however, in a somewhat tentative manner. It consists in regarding the Sakai as an outlying branch of a racial group formed by the Vedda (of Ceylon), Tamil, Kurumba and Australian races... Of these, the height is variable, but in all four of the races compared, it is certainly greater than that of the Negrito races. The skin colour, again, it is true, agrees to a remarkable degree, but the general hair character appears to be uniformly long, black and wavy, and the skull-index, on the other hand, appears to indicate consistently a dolichocephalic or a long-shaped head." Referring to the Sakais, they remark:—"In evidence of their striking resemblance to the Veddas, it is perhaps worth remarking that one of the brothers Sarasin who had lived

among the Veddas and knew them very well, when shown a photograph of a typical Sakai, at first supposed it to be a photograph of a Vedda."

Commenting on this passage, Mr. Thurston writes :--

"For myself, when I first saw the photographs of Sakais published by Skeat and Blagden, it was difficult to realize that I was not looking at pictures of Kadirs, Paniyans, Kurumbars or other jungle folk of Southern India."

Then again, writing of the racial affinities of the Australians, Prof. R. Semon says :--

"We must, without hesitation, presume that the ancestors of the Australians stood, at the time of their immigration to the continent, on a lower rung of culture than their living representatives of to-day. Whence and in what manner the immigration took place it is difficult to determine. In the neighbouring quarter of the globe, there lives no race which is closely related to the Australians. Their nearest neighbours, the Papuans of New Guinea, the Malays of Sunda Islands, and the Maoris of New Zealand, stand in no close relationship to them. On the other hand, we find further away, among the Dravidian aborigines of India, types which remind us forcibly of the Australians in their anthropological characters. In drawing attention to the resemblance of the hill-tribes of the Deccan to the Australians, Huxley says: 'An ordinary cooly such as one can see among the sailors of any newly arrived East India vessel, would, if stripped, pass very well for an Australian, although the skull and the lower jaw are generally less coarse.' Huxley here goes a little too far in his accentuation of the similarity of type. We are, however, undoubtedly confronted with a number of characters —skull formation, features, wavy curled hair--in common between the Australians and Dravidians, which gain in importance from the fact that by the researches of Norris, Bleak and Caldwell, a number of points of resemblance between the Australian and Dravidian languages have been discovered, and this despite the facts that the homes of the two races are so far apart and that a number of races are wedged in between

them, whose languages have no relationship whatever to either the Dravidian or Australian. There is much that speaks in favour of the view that the Australians and the Dravidians sprang from a common main branch of the human race. According to the laborious researches of Paul and Fritz Sarasin, the Veddas of Ceylon, whom one might call Pre-Dravidians, would represent an off-shoot from this main stem. When they branched off, they stood on a very low rung of development and seemed to have made hardly any progress worth mentioning."

In this passage, the terms "Dravidian aborigines," "Dravidians" and "Pre-Dravidians" are used in a rather loose manner, and one is not quite clear as to who it is that Prof. Semon is really writing of. It would appear that following the earlier writers who used the term "Dravidian" to represent the "Pre-Dravidians" as well as the "Dravidians," he uses the one as synonymous with the other in one place, while he reserves the title of "Pre-Dravidian" to the Veddas. At the same time, it seems apparent he is thinking of Dravidians proper when he speaks of the language of Dravidians and calls in the help of linguistic analogy to decide in his favour. The same confusion is to be traced in the writings of more recent writers. This shows how necessary it is to use the term "Dravidian" in its more restricted sense of designating the more advanced castes and tribes of Southern India speaking the languages that have been grouped under the head of "Dravidian." If the language of the Dravidians proper was also the language of Pre-Dravidians, Prof. Semon and those who have followed him may have some justification for their use of terms in the manner they have done. But it is almost a case of begging the question when we assume that their languages were identical. It is true that all speak the same languages now, having regard to the linguistic areas in which they live, but have they done

so in primeval times? If not, can it make for scientific accuracy if this terminological inexactitude is perpetuated indefinitely? It may be conceded that certain at least of the jungle tribes of Southern India have much in common with the Veddas of Ceylon, the Sakais and the other tribes of Malay Peninsula and with the Australian aborigines. But it is a question if the Dravidian proper did not find his way into Australia as well in later times. If he did, the existence of the boomerang in Australia and the resemblances that have been traced between the Dravidian and Australian languages are easily explained. This aspect of the question will be further referred to later on in this chapter. It may suffice here for the present to note that such a migration in primeval times is rendered probable when we remember that otherwise it is difficult to explain the observed similarities in language and social system in the Dravidians proper and the Australians.

That Australia was open on the north and north-west to primitive migration both from India and Papuasia seems admitted by those who have considered this question in any detail. "That such migrations took place," writes Dr. A. H. Keane, "scarcely admits of any doubt," and the Rev. John Matthew concludes that the (Australian) continent was first occupied by a homogeneous branch of the Papuan race either from New Guinea or Malaysia and that these first arrivals, to be regarded as true aborigines, passed into Tasmania, which at that time probably formed continuous land with Australia. Thus the now extinct Tasmanians would represent the primitive type, which, in Australia became modified, but not effaced, by crossing with later immigrants, chiefly from India. These are identified, as they have been by other Ethnologists, with the Dravidians, and the writer remarks that 'although the Australians are still in a state of savagery and the Dravidians of India

have been for many ages a people civilized in a great measure, and possessed of literature, the two peoples are affiliated by deeply marked characteristics in their social system as shown by the boomerang which, unless locally evolved, must have been introduced from India.' But the variations in the physical characters of the natives appear to be too great to be accounted for by a single graft; hence, Malays also are introduced from the Eastern Archipelago which would explain both the straight hair in many districts, and a number of pure Malay words in several of the native languages. The evidence of Geology appears to support this view. "It is highly probable," writes Mr. W. T. Blanford in his *Manual of Geology of India*, "that the metamorphic area of Eastern Burma was land in tertiary period, and that the older tertiary deposits of Assam, Burma and the Malaya Islands were formed in a deep gulf around and amongst an archipelago like that now existing further to the south-east. Some peculiarities of the recent Fauna indicate a connection between the Malaya Islands, Southern India and Africa in early tertiary times; and a land area may have extended to the south of India at this period." That migration from India was possible in primeval times may be inferred to some extent by the fact that migration has long been going on from the eastern Sea-board of India to Burma and the French Indies on the one side and the Straits Settlements on the other. In the former, inscriptions and architectural remains attest to Indian migration within historical times, while in the latter—in Java and Sumatra in particular—Hindu influence was at one time so predominant both in religion and arts that volumes have been devoted to them by Dutch writers. Apparently Kalinga kings and people occupied the islands in the fifth and the sixth centuries of the Christian era, if not earlier. Inscriptions found in West Java specifically name Kalinga in India as the region from which the Hindu colonists

emigrated. "Kalinga" was in popular Javanese corrupted into "Kling" a name by which all people of India, irrespective of race or creed, are still known to the Javanese and others. Kalinga was in ancient times the name given to a kingdom on the east coast of India which had its capital at Vengi or Vegi, in the modern Kistna District. Even now, migration to Straits Settlements from the Districts of South Arcot and Tanjore is a well-recognized fact, and often exceeds 50,000 persons in a year.

The Dravidians proper: The theory of early Philologists.

Now we come to the Dravidians proper. As already pointed out, much confusion in thought and writing has crept in by the loose use of the term "Dravidian." If we restrict the term "Pre-Dravidian" to the race that is now represented by jungle tribes and servile castes of Southern India, we shall have gained a distinct step forward in Indian Ethnological terminology. We can, in that case, reserve the term "Dravidian" to the castes and tribes which, broadly speaking, are fairly advanced in the social scale and are speaking either one or other of the Dravidian languages or dialects. The term "Dravidian" it would be best to reserve to the generality of the South Indian people who are neither "Pre-Dravidian" nor "Aryan," using the latter term in its usually accepted sense. Who were these Dravidians and how did they reach Southern India? There are divergent theories on these interesting questions and all that can be attempted here is but a brief reference to them. The earlier speculators in Indian ethnological discussions were mostly philologists, who based their classification of races on language. By observing a certain number of common characteristic features of a number of languages, they concluded that the races who spoke those languages should belong to the same race. Though this principle of classification of races has been very generally

discredited, it has unfortunately left some relics of its former strength in many different places. Amongst these, India must be counted as one. These philologists observed many characteristics common to Turanian languages, amongst which they brought in the Dravidian group and from them they inferred, as was usual in their days, the racial identity of the various peoples speaking them. Thus were the Dravidians traced to the Turanian family. The theory was developed in its completest form by Max Muller and Bunsen and widely followed until very recently by most writers on Indian History. According to Max Muller and Bunsen, there were Turanian migrations towards the north and towards the south. One migration to the north settled on the Rivers Meikong, Menam, the Irrawady and the Brahmaputra, and formed the Tai tribes, while one to the south followed the courses of the Amur and the Lena and founded the Tangusic tribes. A second migration to the south, finding the country occupied, pushed on to the islands and the sea and laid the foundation of the Malay tribes, while a second to the north is supposed to have originated the numerous Mongol tribes and to have pressed westward along the chain of Altai Mountains. Still a third to the north produced the Turkish peoples, even as far west as the Ural Mountains and the Frontier of Europe. A third to the south is believed to have advanced towards Tibet and India and in later times to have poured its hordes through the Himalayas and to have formed the original native population of India. The last Turanian wanderers to the south were, according to this theory, the forefathers of the Tamils and allied peoples, and the last to the north were the ancestors of the Finns and of the Basques in Spain as well as of the Samsieds in Siberia. All these moving streams of people, it should be remembered, flowed from the mountain plateaus of Central Asia long before the Historic period.

This theory is, however, open to criticism. The only evidence of these Turanian migrations lies in the structure of a number of languages. Neither tradition, nor song, monument, nor historical record has preserved any mention of these primeval wanderings of the first races of Turanian men and women. The theory rests solely on the morphological classification of languages. The upholders of the theory believe that this classification may be used as a test of race inasmuch as, according to them, all those who speak isolating languages belong to one racial stock, those who speak inflexional languages to another, those others who speak agglutinative languages to still another, and so on. The argument, however, fails when applied to the agglutinative languages, the very ones upon which the theory in question rests, for the speakers of these belong to different racial stocks.

If Mr. Keane's view be correct, the whole theory is untenable. He says that isolating, inflexional, and polysynthetic families of languages are all derived from separate agglutinative types. "The true test of agglutination," he says, "is the power of particles to become detached and shift their places in the combined form..... A vast number of languages are of this agglutinating order, from which all the others have emerged in diverse directions.....From that stage language developed according to its different initial tendencies in various directions towards complete decomposition..... as in the isolating state of the Indo-Chinese group; partial decomposition as in the particular languages of the Malayo-Polynesian group; Polysynthesis, as in most of the American groups; and synthesis as in the inflecting Aryan, Semitic, and Hametic groups.....And if it is objected that some languages have never got beyond the agglutinating stage, the answer is that some animals have never got beyond the classes of fishes or reptiles.

This theory of evolution of speech has been objected to by the upholders of the old, but now exploded, theory of root origin. Thus Sayce speaks of "the magical frontier between flexion and agglutination," which can never be 'cleared,' "since to pass from agglutination to inflexion is to revolutionize the whole system of thought and language and the basis on which it rests, and break with the past psychological history and tendencies of speech." But as Jespersen says, "revolutions do take place in the world of languages, even if they take more time than it takes the French to change their constitutions. If a thousand years suffice to change a type of speech like that of King Alfred into the totally different one of Queen Victoria, then the much longer period which Palæontologists and Zoologists accord to mankind on this earth could work still greater wonders. Sayce stands with regard to these three or four types of speech in much the same attitude which Naturalists kept with regard to the notion of "Species" before Darwin came.

Dr. Caldwell, one of the supporters of N. W. passage theory, is strongly against the Southern Dravidians being classed in regard to their physical characteristics with the Turanians or Mongolians. Fergusson, curiously enough, attributes a southern origin to them, but yet calls them Turanians. Dr. Caldwell thinks that there is no difference between the heads or features of the Dravidians and those of the Brahmans, and says that the varieties of feature or physiognomy and colour are so minute and unimportant that, in the absence of any class difference in the shape of the head, they are consistent with the suppcsition of oneness of blood and may be safely referred to local, social and individual causes of difference—the caste system, the prohibition of intermarriages and social intercourse, and the absence of common bonds of sympathy. The Dravidian type of

head, he says, will even bear to be directly compared with the European. Even among the lower classes of Dravidians, the Mongolian smoothness of skin, scantiness of hair, flatness of face, and the peculiar monotonous olive hue of the Mongolian complexion are never met with. As regards other elements of the Mongolian type, it is chiefly, if not solely, among the lower classes that they are seen, and they do not constitute the class type of any caste whatever. They are, Dr. Caldwell says, exceptional instances, which scarcely at all affect the general rule. He adds, "I have no doubt that similar exceptional instances could easily be pointed out amongst the lower classes of our own race." On the whole, he is inclined to believe in the Caucasian physical type of the Dravidians. To prove the general correctness of his reasoning, he points to the physical type of Todas, who are so distinctly Caucasic in the opinion of many persons that they have been regarded as Celts, Romans, Jews, etc. Of all Dravidian tribes, they have been most thoroughly guarded by their secluded position from Brahmanical influences. Instead of being more Mongol-like than the Aryanized Dravidians, they are distinctly Caucasic. Sir George Campbell is of the same opinion. Dr. Caldwell and Sir George Campbell, though they believe in the Caucasic type of the Dravidians, do not assign satisfactory reasons for their belief. The N.-W. Passage theory is their stumbling block. 'The fact seems to be that the Caucasic human type, having evolved itself in the Northern regions of Africa, successively spread itself over Northern Africa, Southern India and Australia through the then existing Indo-African-Austral continent, northwards to Iberia and thence to West and Central Europe. The first migrating groups seem to have been of a low type, and to one of these must be traced, through the then existing Indo-African continent, the peoples of Southern India by a melanchoroid Caucasian type during the late pliocene

and early pleistocene times, from the East or the South, in all probability from the South. That such was the case is proved not only by the fact that the Dravidian now presents a melanchoroid Caucasia physical type but also by the fact that the Australians retain certain Caucasian physical characteristics which could only be explained by a migration of Indian Melanchoroid Caucasians into Australia when the Indo-African-Austral continent existed and Australia was accessible on the north and north-west sides to migrations from both India and Papuasia. Leading Ethnologists are strongly of opinion that there is a marked resemblance between the physical type of the Dravidians and that of the Australians.

Flower and Lydekker bring under Caucasian Melanchoroid the Dravidians and Veddas of Ceylon and in regard to Australia say that it might have been "originally peopled with frizzly haired Melanesians, but a strong infusion of some other race, probably a low form of Caucasian Melanchoroid such as that which still inhabits the interior of the southern parts of India has spread throughout the land from the north-west and produced a modification of the physical characters especially of the hair." Mr. Crooke says that the Dravidians represent an emigration from the African continent; and Professor Semon says that "the features of the Australians with all their ugliness and coarseness, frequently remind one of the Caucasian features." De Quatrefages recognizes the existence of Caucasian, Negro and Mongol elements in Australia; and lastly, Giglioli goes so far as to speak of an Aryan element in Australia.

Again, Zoology, Geology and Botany are all at one in declaring that South India in early times was peopled from the south and not by the N.-W. Passes of India. Peschel suggested that the primeval home of man was a

continent now sunk below the surface of the Indian Ocean which extended along the south of Asia as it is at present, towards the east as far as Further India and the islands, and towards the west as far as Madagascar and the south-east shores of Africa. To this hypothetical continent he gave the name of Lemuria, from the mammals of that name which were characteristic of it. Though the Lemurian hypothesis as at first propounded and for the purposes it was originally intended to serve, has been rightly rejected by Wallace, yet his categorical denial of an Indo-African-Austral continent in pre-tertiary times cannot be accepted. It has been pointed out that he has not fully stated the facts, and that the actual distribution of certain genera, of birds, fishes, reptiles and land mollusca, is strongly suggestive of dry land having formerly extended from Southern India to Madagascar. This view has been confirmed by the investigations of the Indian Geological Survey.

Mr. Oldham says that, at the close of the jurassic period, the land connection with Africa was still maintained, as also in the cretacious period, the close of which witnessed the great outburst of volcanic activity which buried the whole of Western India deep in lava and ashes, contemporaneous with the great series of earth movements which resulted in the elevation of the Himalayas and the extra Peninsular ranges generally. In the tertiary era, we find no further evidence of land connection with Africa; at an early period, the West Coast was approximately in its present position and it is probable that at the close of the cretacious and commencement of the eocene period, the great Indo-African continent was finally broken up and all but the remnants in India and South Africa sunk finally beneath the sea.

A third objection to the Turanian and N.-W. Passage hypothesis is that they make the physical type of the Dravidians Mongolian. Mr. Hodgson, who is followed

by later writers, says, that in the Tamilian form there is less height, less symmetry, more dumpiness and flesh than in the Aryan; in fact, a somewhat lozenge contour caused by the large cheek bones; less perpendicularity in the features to the front, occasioned not so much by defect of forehead and chin as by excess of jaws and mouth; a larger proportion of face to head and less roundness in the latter; a broader flatter face, with features, less symmetrical, but perhaps more expressive at least of individuality; a shorter, wider nose, often clubbed at the end and furnished with round nostrils; eyes less and less fully opened and less evenly crossing the face by their line of aperture; ears larger; lips thicker; beard deficient; colour brunette, as in the Aryan type, but darker on the whole, and as in it very various. It may be at once bluntly said that this description does not in the least apply to the Dravidians, whether civilized or uncivilized, of Southern India. As Dr. Caldwell says:—"Many of these physical characteristics which Mr. Hodgson attributes to the Tamilians may undoubtedly be observed in the Sub-Himalayan tribes of Nepal and Assam, and in a smaller degree in the Santals and Kols, but in these two, it has been pointed out by eminent Indian and Foreign Ethnologists that the Dravidian type prevails. The inexpediency of using as a general appellation so definite a term as Tamilian appears from the error into which Mr. Hodgson has fallen, of attributing the same or similar physical characteristics to the Dravidians or Tamilians of Southern India, as to his northern "Tamilian" tribes, though they differ from these almost as much as do the Brahmins themselves. On the whole, it seems that Mr. Hodgson and others of the school, persuaded by similarities of lingual characteristics in the so-called Turanian group of languages, were led to believe in a similarity of physical type among the different members of that group."

The Theory of the Craniologists.

Though this view has something to be said for it, it has not been by any means uniformly accepted. It has been rejected wholesale by Sir Herbert Risley. Sir William Turner, the great Craniologist, has also not accepted that part of the theory which finds similarities between the Dravidians and the Australians. He finds the differences between the skulls of the two peoples too radical to admit of their origins being identical. He says that "by a careful comparison of Australian and Dravidian Crania, there ought not to be much difficulty in distinguishing one from the other. The comparative study of the characters of the two series of crania has not led me to the conclusion that they can be adduced in support of the theory of the unity of the two people." It is a question if the term "Dravidian" is here used in the strict sense of defining a person who is neither a "Pre-Dravidian" nor an "Aryan." There is some evidence in the writings of Sir William himself to show that he is actually thinking of "Pre-Dravidians" while he is writing of "Dravidians." Sir Herbert Risley follows him so far as to say that his is "the last word of scientific authority." But Sir Herbert's own theory is somewhat complicated. He denies that the Dravidians ever came through the North-West Passes of India and suggests that "they are the earliest inhabitants of India of whom we have any knowledge." He also agrees with Sir William Turner in the view that no direct evidence of either a past or a present Negrito population in India has yet been obtained. This naturally leads him to a novel classification, based primarily on anthropometric grounds, of the Dravidians, a term which, according to him, would include both Pre-Dravidians and Dravidians. While to Mr. Thurston, for instance, the Paniyans of Malabar and the South-East Wynaad are typical of the Pre-Dravidian tribes of Southern India, to Sir Herbert Risley, the self-same Paniyans are one of the two "most

characteristic representatives of the Dravidian type in all India between the Valley of the Ganges and the Island of Ceylon, the other being the Santals." The Santals, according to Dr. Keane, are not Dravidians at all but a tribe belonging to the Kolarians. Where such fundamental differences and views exist, it is best to be a little more explicit. In denying a trans-Himalayan origin to the Dravidians, Sir Herbert says, he combats the view of Sir William Wilson Hunter that the Dravidians and Kolarians belonged to one racial stock and that they entered by the N.-W. and N.-E. Passes of India, and came into conflict later on the Vindhyas, from whence the Dravidians marched down to the south. This theory, as already stated above, is based partially on the writings of Max Muller and Bunsen. Sir Herbert in rejecting it says :—" The basis of this theory is obscure. Its account of the Dravidians seems to rest upon a supposed affinity between the Brahui dialect of Beluchistan and the languages of Southern India, while the hypothesis of the north-eastern origin of the Kolarians depends on the fancied recognition of Mongolian characteristics among the people of Chutia Nagpur. But, in the first place, the distinction between Kolarians and Dravidians is purely linguistic and does not correspond to any differences of physical type. Secondly, it is extremely improbable that a large body of very black and conspicuously long-headed types should have come from the one region of the earth which is peopled exclusively by races with broad heads and yellow complexions. With this we may dismiss the theory which assigns a trans-Himalayan origin to the Dravidians. Taking them as we find them, it may safely be said that their present geographical distribution, the marked uniformity of physical characters among the more primitive members of the group, their animistic religion, their distinctive languages, their stone monuments, and their retention of a primitive system of

totemism justify us in regarding them as the earliest inhabitants of whom we have any knowledge." That, it may be said in one word, evades the whole point at issue. The question is, where did the Dravidians come from? Sir Herbert Risley leaves the question where it was before he tackled it. He does not appear to suggest that they are autocthonous; rather he would seem anxious to leave the question open for the time being. Then as to his classification of the Dravidians, he divides the Dravidians of India into four main groups, the Scytho-Dravidian, the Aryo-Dravidian, the Mongolo-Dravidian, and the Dravidian, each of which he thus describes:—

(1) The Scytho-Dravidian type of Western India, comprising the Mahratta Brahmins, the Kunbis, and the Coorgs; probably formed by a mixture of Scythian and Dravidian elements, the former predominating in the higher groups, the latter in the lower. The head is broad; complexion fair; hair on face rather scanty; stature medium; nose moderately fine and not conspicuously long.

(2) The Aryo-Dravidian type found in the United Provinces of Agra and Oudh, in parts of Rajputana, in Bihar and Ceylon, and represented in its upper strata by the Hindustani Brahmin and in its lower by the Chamar. Probably the result of the intermixture, in varying proportions, of the Indo-Aryan and Dravidian types, the former element predominating in the lower groups and the latter in the higher. The head form is long with a tendency to medium; the complexion varies from lightish brown to black; the nose ranges from medium to broad, being always broader than among the Indo-Aryans; the stature is lower than in the latter group and is usually below the average by the scale given above.

(3) The Mongolo-Dravidian type of Lower Bengal and Orissa, comprising the Bengal Brahmins and Kayasthas, the Muhammadans of Eastern Bengal, and other groups peculiar to this part of India. Probably a blend of Dravidian and Mongoloid elements with a strain of Indo-Aryan blood in the higher groups. The head is broad; complexion dark; hair on

face usually plentiful; stature medium; nose medium with a tendency to broad.

(4) The Dravidian type extending from Ceylon to the valley of the Ganges and pervading the whole of Madras, Hyderabad, the Central Provinces, most of Central India, and Chutia Nagpur. Its most characteristic representatives are the Paniyans of the South India Hills and the Santals of Chutia Nagpur. Probably the original type of the population of India, now modified to a varying extent by the admixture of Aryan, Scythian, and Mongolian elements. In typical specimens, the stature is short or below mean; the complexion very dark approaching black; hair plentiful with an occasional tendency to curl; eyes dark; head long; nose very broad, sometimes depressed at the root, but not so as to make the face appear flat.

This classification of Sir Herbert has been vigorously assailed from two sides. Dr. Haddon thinks that it is vitiated by the introduction of the Scythian element into the discussion, an element of whose racial origins scarcely anything definite is known. Then Dr. Keane has attacked Sir Herbert's theory as unsatisfactory, because it does not, according to him, take into consideration all the known facts. He protests against the confused lumping together, as he calls it, of many primitive peoples as Dravidians or Mongolo-Dravidians or Aryo-Dravidians or Indo-Aryans or Scytho-Dravidians or "by other equally unintelligible and misguiding complex terms." "Surely," he adds, "groups needing to be thus expressed by compound terms must be assumed to represent still earlier crossing which, however, no attempt is here made to determine." He then proceeds:—"Then, in their Census Reports, Sir Herbert Risley and his fellow-worker, Mr. E. A. Gait, denounce the time-honoured term Kolarian (revived by Sir George Campbell) as altogether fantastic, and relegate the Kolarians themselves with "The lost Ten tribes" to cloudland. Deceived by the remarkably uniform results of his own

anthropometric studies, Sir Herbert claims to have disproved the existence of a distinct Kolarian race, "the so-called Kolarians" being simply members of the great Dravidian family and modern researches have confirmed this view by maintaining a relationship between the Kolarian and the Dravidian Languages." (Report, Page 2789; See also Sir Herbert's *The People of India* : 1908.) Thus, as anthropometry claims to prove that there is no distinct *physical Kolarian* type, so philology is called in to prove that there is no distinct *linguistic Kolarian* type, so that Kolarian cannot be a stock language, but must be related to the Dravidian stock language. In the Report, the prescribed Kolarian is replaced by Max Muller's *Munda*, this being one of the chief members of the group, and thus is formed the hypothetical Dravido-Munda family, which looms largely in the pages of the Report, where the two component terms are treated as two related branches of one stock language. Such are the main current views, which, although they have received the seal of official authority, are radically wrong; and have in fact once more reduced Indian Ethnology to an almost hopeless state of chaos. Dr. Keane goes on to remark that the Kolarians are quite a distinct people, and speak dialects belonging to a linguistic family which has no kinship whatever with the Dravidian family. He also argues that the Dravidians and Kolarians are radically distinct, both in language and race, and that there is nothing in common between them. His argument is too long to quote here but it lays bare the contradictory character of the reasoning adopted by Sir Herbert and his co-adjutors, the admissions they themselves make as to the essential dissimilarity of the Dravidian and Kolarian languages and ends with comparing a typical language from each family (Tamil representing the Dravidian and Santali representing the Kolarian) to demonstrate the unscientific character of the reasoning

adopted. Dr. Keane concludes by saying:—"I have gone into these details at the risk of wearying the reader in order to show once for all how absolutely unrelated are the Kolarian and Dravidian forms of speech. Thus is at the same time established the radical difference of the two races who are called "Dravidians in the Census Report." Wherefrom did these two races reach India? Dr. Keane says that "as the Kolarian reached India most probably from the north or the north-east, so the Dravidians came almost certainly from the north-west where they appear to have left behind the belated Brahuis of Beluchistan. Beyond the Vindhyan Range, they have nearly everywhere absorbed or replaced both the Negrito substratum and the Kolarian indigenes. Hence it is that at present all the natives of the Southern Uplands—Mysore, Coorg, Cochin, Travancore, etc., speak various forms of the Dravidian mother tongue." Sir Herbert Risley himself is hardly satisfied with his own classification. Among the limitations he places on them is one that deserves to be quoted. "It may be said," he says, "that the names assigned to the types beg the highly speculative question of the elements which have contributed to their formation. The criticism is unanswerable. One can but admit its truth and plead by way of justification that we must have some distinctive names for our types, that names based solely on physical characters are no better than bundles of formulæ, and that if any hypotheses of origin are worth constructing at all, one should not shrink from expressing them in their most telling form." The only answer to this argument is that the names are not "in their most telling form" and one feels that he is nowhere nearer the origins of the races after having got to the end of Sir Herbert's classification than he was before he took it up. It does seem that Sir Herbert has not taken all the known facts into consideration and so has been

unable to get to the root of the matter. Sir Herbert Risley's theory has been criticised from other points of view as well. The interested reader will find a running summary of this criticism in Mr. Crooke's introduction to his Edition of Sir Herbert's book "*The People of India*" (pp. xvii-xxi).

Dr. Keane himself, it will thus be observed, is a believer in the theory which holds that the Dravidians came through the North-West Passes of India from across Central Asia. He, of all recent writers, is the only one who stands for this theory, though it is difficult to say on what grounds he bases it.

The complexity of the problem.

Conflicting theories indicate the extremely difficult character of the Dravidian problem. If future research is to settle it in anything like a satisfactory manner, attention must be primarily directed to at least four important points:—(1) Defining the term "Pre-Dravidian" in a strict manner, and scientifically tracing the affiliation of the tribes or castes that should be grouped under that head; (2) Defining likewise the term "Dravidian" and fixing likewise its exact connotation, more especially pointing out how far the term, used in a racial sense, could be held to be conterminous in its significance with the term as used in its linguistic sense; (3) Defining aright how far the descriptions of the earlier authorities of the racial affinities of the South Indian peoples should be taken as applicable to "Pre-Dravidians" and "Dravidians"; and (4) Defining how far the Dravidians have absorbed or supplanted the Pre-Dravidians.

Caste and race.

The relation of caste to race has been much discussed, but this is hardly the place to go in any detail into the many conflicting theories which have been propounded in regard to it. At one extreme is the theory of Nesfield who assumes the essential unity of the Indian race,

denies in a general difference of blood between Aryan and Aboriginal, and holds that caste is merely a question of occupation. According to him, by the time the caste system and its restrictions on marriage had been evolved, the Aryan blood had already been absorbed beyond recovery into the indigenous, so that no caste, not even the Brahman, could claim to have sprung from Aryan ancestors. The existing differences in social rank are due solely to the character of the occupation: the scavenger castes are at the bottom of the social scale, then those engaged in hunting and fishing, and so on through a regular gradation, to the land-owners and warriors and at the top of all, the priests. The antithesis of this theory is Sir Herbert Risley's view that the primary distinction was one of race, engendered by the contact of the conquering fair-skinned Aryans and the conquered black aborigines. The former despised the latter, but at first, having too few women of their own, they were often obliged to take aboriginal girls as their wives. Later on, when this scarcity no longer existed, they closed their ranks to any further intermixture; and when they did this, each group became a caste like those of the present day. There was a regular gradation of social rank, the communities of pure Aryan and aboriginal stock being respectively at the top and bottom, and those with varying degrees of racial mixture in the middle. Once started, the principle of endogamy was strengthened and extended to groups formed otherwise than on a racial basis, until the modern multiplicity of castes was evolved. But even now, caste largely corresponds to race; and the social status of the caste is indicated by its physical type, those at the top having an Aryan and those at the bottom an aboriginal physiognomy. Taking the nose as the most characteristic feature, Sir Herbert propounded that castes vary in social rank according to the average nasal index of their members. It did not of course

mean each individual caste had its distinctive physical type, but that each social stratum comprising a number of castes of similar standing can be distinguished in this way from those above and below it. It seems necessary to add, as Sir Edward Gait well points out, that Risley used the expression 'Aryan' to designate the people calling themselves *Arya* or *Noble*, who entered India from beyond the North-West Frontier and brought with them the Sanscritic languages and the religious ideas to which expression is given in the Vedas and Upanishads, and whose physical type is represented by that of the Jats and Rajputs, *viz.*, a long head; a straight finely cut nose; a long, symmetrically narrow face; a well-developed forehead, regular features and high facial angle. He did not propose to enter on the controversy between those who, like Posche and Penka, regard the tall, blonde, dolichocephalic, and leptorrhine Scandinavian as representing the primitive Aryan type and those who, like Isaac Taylor, have held that it is to be identified with the short-headed leptorrhine neolithic race who built the dwellings of South Germany, Switzerland and Northern Italy. Risley's conclusions have, however, not gained general acceptance. Based on the measurements made by him in Bengal, they have been called in question by Crooke in the United Provinces, Enthoven in Bombay, and Thurston in Madras, while O'Donnell has argued that even the Bengal measurements are often at variance with it. On the other hand, Nesfield's theory of racial unity is conclusively disproved by the measurements which show considerable diversity, not only in different areas but also amongst different groups of castes in the same area. It is not proposed to go into this large question here except to point out that Sir Herbert Risley, has, according to competent critics, exaggerated the isolation of the present grouping of the people; and that caste, in its modern rigid form, is of comparatively recent

origin. The older customs, for instance, recognize the possibility of a Kshatriya becoming a Brahmin or *vice-versa* and although a man is supposed to take his first wife from his own class, there was no binding rule to this effect, while in any case he was free to take a second wife from a lower class. As Mr. Crooke points out, similar laxities of practice prevail at the present time among certain communities in the Himalayan Districts of the Punjab. Caste, again, has been habitually modified by the action of Rajahs, who have not infrequently claimed the right of promoting and degrading members of the various castes. The process of amalgamation of castes and tribal groups is specially observable in the case of forest tribes when they come in contact with Hinduism. Each of them shows, as Mr. Crooke puts it, a ragged fringe in which the more primitive tribe is found intermingled with the more civilized race.

Origin of caste.

The origin of caste has given rise to much speculation. The literature on the subject is vast. It is not possible to go here into the many theories advanced in regard to it. The well-known works of Nesfield, Senart and Sir Herbert Risley render this task unnecessary. Recent writers have adversely criticised Sir Herbert's theory, which is among the latest. These and other topics, interesting as they are, cannot be pursued here. It should suffice to state the general conclusions which may be taken as justified in the light of the many theories put forward and the criticisms offered on them.

These are that caste is not unknown out of India; that caste in India was not, as has been said, the "invention" of the Brahman, but the result of contact between Aryan and non-Aryan races, the latter contributing as much towards its formation as the former; that marked physical differences between the races in India no less than the peculiar social tendencies they exhibited

contributed their quota in developing the idea of caste; that in the beginning, it was probably purely functional in character; that in later times as the area of contact grew, the growth of national, tribal, degraded and mixed castes went on practically unchecked; that possibly during this period, the functional basis changed into a hereditary one, owing as much to the influence of systematizing legists as to belief in the religious doctrine of Karma; that the development of caste in India has been both gradual and unaffected by foreign influences; that from the beginning there have been protests against its tendency to fission and debasement of human character; that the tendency of the teachings of the Upanishads and the Bhagavad Gita is to place caste on a less untenable basis; that the Jain, Buddhist, Saiva and Vedantic Schools of thought altogether ignore caste; that Manu's theory should only be treated as summing up the conditions of his time; that in so far as Manu follows the older writers in dividing castes into Brahmana, Kshatriya, Vaisya and Sudra, he is only following the usual formula enunciated by them and trying to adjust the conditions of his own time with the formula as enunciated by them; that that formula having been evolved when function probably formed the basis of caste should not be construed literally; and that regarded from any point of view, the division itself is not borrowed but indigenous.

Effects of caste.

As may be readily imagined, the peculiarities of the caste system have afforded occasion for the entertainment of the most divergent views as to its influence on Hindu progress. We have space here only to set down a few of these opposing views to indicate the position assumed by the respective writers. James Mill has denounced it as a great political blunder, fatal to free competition and opposed to individual happiness. This

view, however, assumes a state of facts which is undeniably non-existent. As Colebrook and Elphinstone have pointed out, the restrictions of caste in regard to occupations have had no practical effect on the people of this country. Any one has been free to follow any occupation he chooses and even the Brahman has been, since at least the time of Manu (III. 151-166) free to take to any occupation he chose. Sir Henry Maine described caste as "the most disastrous and blighting of human institutions." Others like Sir Rabindranath Tagore have referred to the "immutable and all-pervading system of caste" and pointed out how it has retarded the growth of nationality in India. This view, however, has been subjected to acute criticism by Sir Herbert Risley in one of the best chapters of his book *The People of India* and his conclusions may be stated in a few words. "Caste in particular," writes Sir Herbert Risley, "seems at first sight to be absolutely incompatible with the idea of nationality but the History of the Marathas suggests that a caste or a group of castes might harden into a nation and that the caste organization itself might be employed with effect to bring about such a consummation" A recent Missionary critic of note has stigmatized caste as "a pontificial denial of the brotherhood of man." Another, who is alive to the advantages that caste secured to the Hindus generally in its earlier stages, thinks that its religious basis is "clearly dying" and broadly suggests that it has outlived its usefulness. On the other hand, there are not wanting observers who hold views directly opposed to these. Comte's appreciation of caste is well known. He regards the hereditary transmission of functions under the rule of a sacerdotal class as a necessary and universal stage of social progress greatly modified by war and colonization. The morality of caste was, he contends, an improvement on what preceded; but its permanence was

impossible because, "the political rule of intelligence is hostile to human progress." The seclusion of women and the preservation of industrial inventions were, according to him, features of caste; and the higher priests were also magistrates, philosophers, artists, engineers and physicians. The historian Robertson and the French Missionary the Abbè Dubois have regarded caste as the great safeguard of social tranquillity and, therefore, as the indispensable condition of the progress in certain arts and industries which the Hindus have undoubtedly made. The Abbè Dubois, indeed, devotes a whole chapter of his work to prove his contention that "it is caste authority which, by means of its wise rules and prerogatives, preserves good order, suppresses vice and saves Hindus from sinking into a state of barbarism." He thinks that much of the European criticism levelled against caste is the result of the imperfect knowledge of the Hindu people and the spirit and character of their institutions. "I believe," he writes deliberately, "caste division to be in many respects the *chef d'aeurre*, the happiest effort, of Hindu legislation. I am persuaded that it is simply and solely due to the distribution of the people into castes that India did not lapse into a state of barbarism, and that she preserved and perfected the arts and sciences of civilization whilst most other nations of the earth remained in a state of barbarism. I do not consider it to be free from many great drawbacks; but I believe that the resulting advantages, in the case of a nation constituted like the Hindus, more than outweigh the resulting evils." Writing nearly a century later, Sir Alfred Lyall uses language almost nearly the same as the Abbè. "All our European experiments," he writes, "in social science have taught us the unwisdom of demolishing old world fabrics, which no one is yet prepared to replace by anything else. Caste, for instance, looks unnecessary and burdensome, it is wild

abused by Europeans, to whom the Brahmanic rules of behaviour seem unmeaning and unpractical; but these things will tumble quite fast enough without our knocking at their keystones by premature legislation..... We have ourselves to overcome the rather superficial contempt which a European naturally conceives for societies and habits of thoughts different from those within the range of his own ordinary experience and also to avoid instilling too much of the destructive spirit into the mind of Young India, remembering that for the English and Natives the paramount object is now to preserve social continuity." Dr. J. N. Farquhar, who thinks that the religious basis of caste is dead or dying under the stress of modern conditions, freely concedes that caste during the earlier stages did much good to the people who came into its fold. First, according to him, it proved a thoroughly social institution, being a great advance on the simple arrangements of the Aryans when they entered India. It sought to absorb the aborigines instead of destroying them as has been done in many lands. Secondly, it has preserved the Hindu race and its civilization along with its family institutions. But for this powerful protection, Hindu culture would have been overwhelmed by the terrific political storms of the centuries and the race could have survived only in fragments. Thirdly, caste did for many centuries in India the work which was done in Europe by the mediæval trade guilds. Fourthly, caste has also served to some extent the purpose of a poor law in India; for the well-to-do members of the caste fulfil in some degree at least the duty of providing for those members who have fallen into indigence.

Right-hand and left-hand castes.

A point of some interest, if not of importance, in connection with caste is the origin of the distinction of castes into right hand and left hand. This distinction is

found practically all over Southern India and is referred to in lithic inscriptions found in many districts of Mysore and Madras, dating from about the 11th century A.D. In this State, the agricultural, artisan and trading castes are termed *panas* or professions, which are 18 in number. These *panas* are divided into two divisions called Bala-Gai and Yeda-Gai (corresponding to Tamil Valan-gai and Edan-gai) or Right and Left Hands. A large number of castes belong to one or other of these divisions. Although the Right hand and Left hand factions are said to include only 18 trades, there are many castes which adhere to one side or the other, but their numbers do not seem to be taken into account. All Brahmans, Kshatriyas and a few others are considered as neutral. It is impossible to obtain authentic lists of the castes belonging to the two divisions. The lists vary from locality to locality. The following is one of those commonly given in the State:—

Right Hand Divisions.

Banajiga	Traders.
Vokkaliga	Cultivators.
Ganiga (Ontethu)	Oil men who yoke only one bullock to the mill.
Rangare	Dyers.
Lada	Mahratta traders.
Gujarati	Gujarati merchants.
Kamati	Labourers.
Jaina or Komati	Jain traders or Komati traders.
Kuruba	Shepherds.
Kumbara	Potters.
Agasa	Washermen.
Bestha	Fishermen.
Padmasale	A class of weavers.
Nayinda	Barbers.
Uppara	Salt-makers.
Chitragara	Painters.
Golla	Cowherds.
Holeya	Agricultural labourers.

Left Hand Divisions.

Panchala comprising:—	
Badagi	Carpenters.
Kanchagara	Copper or brass smiths.
Kammara	Iron-smiths.

Kal-kutiga	...	...	Stone masons, etc.
Akkasale	...	...	Gold-smiths.
Bheri	...	...	A class of Nagarta traders.
Devanga	...	...	A class of weavers.
Hegganiga	...	...	Oil men who yoke two bullocks to the mill.
Golla	...	...	Cowherd.
Beda	...	...	Hunters.
Yakula or Toreya	...	...	Cultivators or a class of fishermen.
Palli or Tigala	...	...	Market gardeners.
Madiga	...	...	Chucklers.

The Telugu Banajigas and Linga Banajigas are the recognized heads of the right-hand division. According to them, all the eighteen *panas* enumerated above belong to them, and the nine *panas* of the left-hand are separate. The Panchalas and Nagartas, who are at the head of the left-hand section, contend that the eighteen *panas* are equally divided between the two factions and that the nine enumerated above belong to them. However this may be, the origin of the distinction is buried in obscurity. According to one tradition, it arose from the fact of the Goddess Kali at Conjeeveram placing certain castes on her right hand and certain others on her left. The parties have ever since disputed as to the relative honour accorded to each side. Mr. Rice, in the last edition of this *Gazetteer*, suggested that the division was apparently a comparatively modern one as no mention of it is to be found in any ancient work except for a doubtful passage in the *Mahawanso*. The Abbè Dubois took a similar view. Another writer puts forward the suggestion that the distinction was the creation of a Chola King. Recently, Sir Edward Gait has suggested that the division may be a survival of a dual exogamous grouping which existed before the development of the caste system. There is also a right-hand and left-hand division of Sakti worshippers, the rites of the former being principally magical, of the latter bloody and licentious. But as pointed out by Dr. W. H. Wilson, there seems to be no connection between the cases. As the Abbé Dubois

points out, the division is mainly a struggle for precedence between the artisans and the traders, or between the followers of the old established handicrafts and innovators who brought in exchange of commodities with other parts supported by producers and ministers of luxuries. Whether this is so or not, each party undoubtedly insists on its exclusive rights to certain privileges on all public festivals and ceremonies, and it not infrequently happens that one side usurps the supposed and jealously guarded rights of the other. On such occasions, a faction fight is sure to occur. "Perhaps the sole cause of the contest is the right to wear slippers or to ride through the streets in a palanquin, or on horseback during marriage festivals. Sometimes, it is the privilege of being escorted on certain occasions by armed retainers, sometimes that of having a trumpet sounded in front of a procession, or of being accompanied by native musicians at public ceremonies. Perhaps it is simply the particular kind of musical instrument suitable to such occasions that is in dispute; or perhaps it may be the right of carrying flags of certain colours or of certain devices during these ceremonies." The Abbè Dubois, who writes thus, adds that he had on several occasions witnessed popular insurrections excited by the mutual pretensions of the two factions. "I have sometimes seen these rioters," he says, "stand up against several discharges of artillery without exhibiting any sign of submission." These faction fights figure prominently in the Madras Records of the 18th century. They have gradually disappeared under the civilizing influences of education and good government; and, if they ever occur at all now, are confined to the lowest castes forming them and never spread beyond the limits of a village. The distinction between the two factions, however, still exists, though it is of no great practical interest, whether from the social or administrative point of view.

We may note a few of the general characteristics of the Mysore castes and tribes before we notice the more numerous of them in detail. So far as enquiries have gone, there is no evidence among any of them of the general existence at some time in the past or now of Polyandry. General characteristics of Mysore castes.

Evidence of the existence, however, at one time of *mutterricht* (or mother-right) is traceable among several of them. Under this system, often called the Matriarchate, descent was traced and property transmitted in the female line. Among many castes and tribes in the State, a man's family is actually sought to be continued at the present day through a daughter who lives in his house. This is so among the Kurubas, Bedas, Vaddas, Dombars, Madigas, Holeyas and Sillekyatas. Among most of these, when there are no sons born of the marriage, adoption is hardly ever resorted to. Instead, the lineage is perpetuated through the daughter. The daughter, in this case, is not given away in marriage as usual but is dedicated to the God or Goddess—Saivite or Vaishnavite according to the caste of the family—and turned into what is known as *Basavi*. This term, literally meaning "She-bull," carries with it the import of "Procreator." This name has been given because she raises progeny for the family. A Basavi, after dedication, usually remains in her father's house and can consort with any one belonging to her own caste or a superior caste. Her children belong to her father and inherit direct from him. She has herself all the rights of a son and in default of sons inherits all her father's property. Her issue, not only inherit her father's property but are also deemed for every purpose—including marriage—legitimate. The ceremony of dedication is essentially the same among all these castes. The affiliation of a son-in-law in the family is also widely prevalent. Mother-Kin.

Among the Holeyas, a resident son-in-law receives an equal share of his father-in-law's property with his brothers-in-law. Among the Bedas, Vaddas, Gangadikara Vokkaligas, Morasu Vokkaligas, Gollas and a section of Ganigas, a similar custom (*Illatom* in Telugu, and *Manevalatana* in Kannada) is found to be prevalent. It is rare among Komatis but is not altogether unknown. According to this custom, when a man has no sons, a daughter is married to a man who agrees to become a member of the family and who thereafter resides in the father-in-law's house and inherits his estates for his children. *Illatom* literally means "*acting the son of the family.*" A son-in-law thus affiliated gets a share in the property equal to that of the son and in the absence of any sons, becomes sole heir to the father-in-law. A Basavi and an *Illatom* son-in-law, as such, perform the funeral obsequies of the father or father-in-law from whom they inherit.

Among most castes and tribes in the State, the important position assigned to a woman's brother gives us a glimpse of the days when the family centred round the mother and her brother and not her husband. It might be stated that the universal practice among castes and tribes of the State is for a man to ask for the hand of his sister's daughter either for himself or for his son. It is a binding custom among the Korachas that the first two daughters of a woman must be given at a reduced bride-price to her brother to be married either by himself or to his sons. If he has no sons and does not himself stand in need of the girls for marriage, his right to them is exercised by his getting two-fifths of the bride-price payable for each of them at their marriage. The usual bride-price in the caste—20 Pagodas—is reduced to 12 pagodas if the maternal uncle takes the bride. Among the Vaddas, the bride-price varies from Rs. 7 to Rs. 15 according to family custom, but this amount may be

compounded for by the bridegroom agreeing to serve his father-in-law till he begets a female child and presents her to his brother-in-law.

Among the Sanyasis, very often the son-in-law lives in his father-in-law's house until he becomes a father of two or three children before he settles down separately. The right to a sister's daughter is not lost even when the sister lives unmarried in her father's house. In such a case, the brother does not himself marry such a sister's daughter, but he has no objection to take her in marriage to his son. The maternal uncle, indeed, has to be consulted in regard to the marriage of his nephew or niece and not infrequently he himself makes all the arrangements necessary in connection with it. Among the Kurubas, Agasas, Helavas, Sillekyatas, Kumbaras, Sadas, Idigas, Nayindas, Tigalas, Banajigas, etc., it is the right and duty of the maternal uncle to cut the chief post of Kalli (*Euphorbia Tirukalli*), required for erecting the marriage booth. It is this post which ensures, it is said, the continuity of the line. Similarly among the Korachas, the maternal uncle cuts a Nerala (*Jambolana*) tree. Among the Holeyas, the *tali* is tied to the bride by the maternal uncle. Among the Komatis, a portion of the presents made to the bride must go to the maternal uncle and another portion to the bride's sister. Among the Sales and Nagartas, a Peepul branch is cut and brought by the maternal uncle for erecting the marriage booth and he is paid Rs. 4-8-0 for his trouble. Among the Idigas and Telugu Banajigas, the duty of tying the chaplet (*Bhasingha*) to be tied to the bridegroom's forehead is done by the maternal uncle. Among the Kumbaras, a chaplet thus tied can only be removed by the maternal uncle. Among the Kumbaras, the bride is brought to the marriage booth by her maternal uncle. So also among the Helavas and the Gangadikara Vokkaligas.

Among the Morasu Vokkaligas, the maternal uncle ties the fringes of the cloths of the bride and bridegroom as soon as the *tali* is tied and they then exchange rice and salt, a sign of swearing mutual fidelity. Among the Kadu Gollas the bride-price is made over by the father, on payment, to the maternal uncle. Among the Medars, the bride is a second time given away by the maternal uncle. Among the Madigas, the bride and the bridegroom are each lifted up by the maternal uncle who circles round three times with the burden and each bows towards the Sun, and upsets a jug of water (kept close by) by kicking it. The couple are then carried inside the house and deposited on the marriage dais. The maternal uncles are each presented with a turban, 12 betel leaves, 12 nuts, one cube of jaggory and four pies. This ceremony is called *Binaga* or *Serebidisuvadu*, *i.e.*, release from bondage. Among the Tigalas, no marriage can be agreed to without the maternal uncle consenting to it. A parent so agreeing is tried by the caste. Among the Komatis, the maternal uncle's daughter is claimed as of right by his sister. The phrase *Komati Menarikam*, literally meaning the *Komati's maternal relationship*, is a well-known one. It really means a relationship from which there is no escape. Where a man has no daughter to give in marriage to his sister's son, he has to secure one for him. Indeed, this prominence at marriages of the maternal uncle, the claiming of the milk-price (lit. Breast-milk wages) among certain castes and tribes by the mother, besides the bride-price, which originally went wholly apparently to the mother's brother and now only partially goes to him, and the practical obliteration of the father and his rights during the time the marriage lasts—all these show that in ages past, the mother and her brother possessed rights which later were usurped by the father.

Pre-marital communism.

Among the majority of castes and tribes, a great deal of freedom is allowed between the sexes prior to the marriage, so long as they confine their amours to members of their own or a superior caste. Most castes strictly prohibit intercourse between persons of the same exogamous group, but it none the less occasionally takes place. In such a case, the usual practice (as among the Vaddas) is to make the man pay a fine to the caste which is double the usual amount and to require him to marry her. If he declines to do so, he is put out of caste, and she is allowed to marry any other person. Among the Holeyas, sexual license before marriage is connived at or at least tolerated. If a young woman remains unmarried in her father's house, she may entertain casual visitors, and if she forms a permanent connection thus, the man may tie a *tali* to her. The usual bride-price has to be paid and the issue of such a marriage is considered legitimate even though they were born before the tying of the *tali*. In some places, an unmarried girl might with impunity live with any caste man, but if she becomes pregnant, she has not only to marry her lover (unless he rejects her) but has to pay to the caste a fine of Rs. 8. The man is also fined by the headman, who may require the man to marry the girl. If he refuses, he is put out of caste. The woman has then the right to take another man, the betrayer being compelled to compensate her by paying Rs. 25 and giving her a suit of clothes. Very similar customs prevail among the Madigas, Gangadikara Vokkaligas, Idigas, Upparas, Kumbaras and Handi Jogis. Among the Korachas, a woman may remain unmarried without incurring any social odium. But if she has a secret lover, she must disclose his name and marry him, if he is a caste-man, after paying a fine to the caste. If he is of a superior caste, he is thrown out of caste. Among the Tigalas, a man may consort with a woman of any caste except the lowest such as a Holeya, Madiga, etc., and his

children are reckoned as Tigalas. Among the Dombars, sexual lapse before marriage is proverbial.

Post-marital license.

Though chastity of the wife is generally valued and is, as a matter of fact, the rule among most castes and tribes, great freedom is known to prevail within the limits of the caste among them. Among the Kurubas, adultery on the part of woman with a man of the same or a higher caste is condoned by the tribal head, but if the man who receives her favours be of a lower caste, she is put out of the caste. She is compelled to remove herself to the Madiga quarters and cattle-horn and bones and margosa leaves are thrown into her house, evidently to show that she has become as low as the Madigas in the estimation of her *quondam* castemen. Among the Bedas, Agasas, Besthas, Tigalas, Morasu Vokkaligas, Idigas, Upparas, Kumbaras, and Medars, if the husband has no objection, a wife's adultery may be expiated for by the payment of a fine to the caste. Among the Korachas, sale or mortgage of wives is not uncommon. Among the thieving section, the children born to a married woman through *liaison* during the time her husband has been away serving his sentence in a jail are acknowledged as his own by the latter after he returns home. A similar custom is prevalent among the Banjaras. In the same caste, the wife is in fact not infrequently considerably older than the husband by reason of the man not foregoing his right to the hand of his sister's daughter. In consequence of this custom, the women are allowed to cohabit with near relatives, the husband acknowledging the children born by such connection as his own. Among the Dombars, elopement after the marriage of a woman is common and is expiated by the payment of a fine to the caste, besides reimbursement to the husband of his marriage expenses. Among the Madigas, it is said that a wife who is living with a person other than her lawful husband may, after

the lapse of some years, be reconciled to her husband and go back to his protection with any children which may have been born to her in the interval. A somewhat similar custom prevails among the Handi Jogis. Among many other castes—such as the Gollas, Silliekyatas, Mondarus, Helavas and others—infidelity on the part of a wife is condoned by the husband, and the caste panchayets only inflict nominal fines.

Divorce.

Marriage being a religious sacrament among orthodox Hindus—Brahmans and those following their customs in this matter—divorce as such does not exist, though infidelity might mean expulsion from the caste to a married woman. Among the others, however, divorce is both simple and easy. Divorce can be brought about at the instance of either party for infidelity on the part of the wife or incompatibility of temper between the parties or loss of caste by either party. A fine is usually paid to the caste by the party adjudged to be at fault. In either case, the wife has to return to her husband, the *tali* tied to her on the marriage occasion; also the jewels if any presented to her then, as also the bride-price, and the marriage expenses incurred by the husband, in case she marries another man. In case she marries her paramour, the bride-price and the amount of the marriage expenses of the previous husband will be collected from him. Such a marriage is always in the *Kudike* form. The bride-price paid for a divorced woman varies, but is usually considerably less than the regular bride-price. It is said that after divorce, the parties cannot reunite if they wished to do so.

Polygamy.

Though both Hindu Law and usage allow a man to take as many wives as he desires, it is only rarely that a man of any caste or tribe takes advantage of the privilege. The special reasons that might sanction a second wife

are the failure of the first to bear a son, or her affliction by an incurable disease or infirmity. In such cases, not only the consent of the first wife but also of the caste is necessary. Usually the wife herself moves first in the matter and arranges for the second marriage of her husband. She not infrequently encourages her husband to take a second wife to save the family from extinction. Where a sister of the first wife is available, she is usually taken in marriage as the second wife, the first wife playing the part of a kind mother to her in her husband's house. Some amount of compulsory polygamy prevails among certain castes (for example the Banjaras) owing to the practice which prevails amongst them of expecting a man to marry her elder-brother's widow. Among most castes (*e.g.*, Kurubas and Holeyas), it is usual to discourage polygamy by levying a fine on the party guilty of it. When a man marries a second wife, while the first one is still alive, he is made to pay *Savati Hana* (or co-wife's price) which is sometimes about half as much again as the bride-price prevalent in the caste.

Widow remarriage.

Among the higher castes, widows do not remarry as marriage is considered a religious sacrament. This theory, however, has not permeated the generality of Hindu castes and tribes in the State. Among those who do not remarry their widows are the Komatis, Kadu Gollas, sections of the Idigas, Nayindas, Devangas and Kumbaras, the non-Lingayat Sadas, Nagartas, Banajigas (except the Mannuta section, who are regarded as being low in the social scale) and the Ganigas, the Gollas, Morasu Vokkaligas and Kunchigas, stand in a midposition. These discountenance widow remarriage, but if a widow chooses to remarry or live with a widower as his concubine, she is allowed to do so and her children form a *Salu* or branch of their own. The members of the caste do not intermarry with them though they have no

objection to interdine. Among some castes (notably the remarrying section of Kumbaras), the restriction as to intermarriage extends only to three generations, after which *Jus Connubium* is restored. Among the Kadu Gollas, the feeling against remarriage is intense. They indeed believe that a woman on losing her husband becomes the bride of their tutelary deity and so she can neither remarry nor be allowed to part with her bangles and *tali* which she is allowed to wear as usual. Excepting among the castes mentioned, widow remarriage is extremely common in the State. Usually, there is no restriction as to the number of times a widow can marry. Among Vaddas, Dombars, Korachas and Handi Jogis, a woman re-marries as many as seven times. Among the Gangadikar Vokkaligas, it is usual to remarry as many as three times. Some members of this caste believe that persistent remittant fever (quartant ague) is cured if the person suffering from it drinks water given by a thrice married woman. Except among the Banjaras, a widow cannot marry her deceased husband's brother, elder or younger. Among most castes, she cannot marry any agnatic relation of her late husband. The restriction is extended among a few other castes (*e.g.*, Kurubas, Helavas, Bedas, Sanyasis, and Holeyas) to all persons belonging to the exogamous sept of the husband. Among the Korachas, however, though she cannot marry her late husband's brother, she may marry any one belonging to his division or sept. It is usual for the widow, especially when she is young and without children, to return to her mother's house before offering herself again for marriage. Among the Idigas, there can be no question of remarriage while the widow stays in her late husband's house. This right is, however, subject to certain conditions. These are that she should obtain the consent of her parents, the parents of her late husband and of the caste headman. She should also hand over the children,

if any, by the first marriage, to her late husband's parents. She should also, in some cases, return the jewels (including the *tali*) which her previous husband might have given her. Among some castes (*e.g.*, Upparas) a further payment called the "release money" should be paid to the late husband's parents.

Form of remarriage.

When a widow marries her late husband's younger brother, as among the Banjaras, there is hardly any ceremony excepting that the new husband has to supply to his caste fellowmen betel and nut and provide for them a drink. In other cases, there is a kind of maimed ceremony that is usually performed on the occasion. This is known among most castes as *Kudike* (or commingling) as opposed to the *Maduve* (or marriage) in the case of a virgin bride. Sometimes, it is called *Sirudike* or the commingling preceded by the present of a new cloth to the widow by her new husband. Married women cannot take part in it, nor could the remarried woman make herself visible to any married woman for three days after her wedding. Nor can she ever take part in the celebration of virgin marriages and other auspicious occasions. The marriage takes place usually during the dark fortnight, on a day fixed, after sunset and often after darkness has set in, in the presence of the assembled castemen. The bride usually bathes, puts on the new cloth given her by the new husband, who ties the *tali* to her after paying the bride-price usual in the caste. The customary caste dinner follows. Among some castes the ceremony is somewhat more elaborate, as among the Madigas, but the essential portion of the ceremony is the same. A similar custom appears to prevail among the Sadas. Among them, the marriage takes place in the new husband's village, to which the widow repairs. She lodges in a temple for the time being. The would-be husband goes there with some of

his castemen and presents her with a new cloth and a bodice cloth which she wears. Glass bangles are put on her wrists, and in the presence of the assembled castemen, the man, in some places a remarried widow, ties the *tali* to her. Meanwhile, the man's house is vacated and rendered dark for the occasion and the man himself is made to sit in a corner. The woman is conducted to this place, and as soon as she enters it, the man asks her why she has come there. She replies, "I have come to light a lamp in your dark house." Then a light is lit, and the whole function ends with a caste dinner.

Influence of religion.

Though as we have seen above, sexual license within the caste is tolerated to a certain extent, still female chastity is highly prized among the generality of castes and tribes in the State. This may be due to long contact with a superior religion, which has long inculcated the belief that marriage is a sacrament. Among those castes which have been largely influenced by this idea, even widow marriage has ceased to exist. In some castes, while it is favoured by some sections, others look askance at it. Among Morasu Vokkaligas, even child widows cannot remarry. Pre-marital license is falling into disfavour. It is not tolerated among the Gangadi and Morasu Holeyas. Among them, if a girl becomes pregnant before marriage, she is put out of caste. The odium lasts even after death and to ensure a proper burial of her body, such a woman sets apart a sum of money, about Rs. 12, during her lifetime. Even among Banjaras, pre-marital intercourse is put down with a high hand. The Nayak of the Thunda had until recently power to subject the seducer in a case of that sort to ignominious treatment, shaving his head on one side and parading him in the street on the back of a donkey. This, however, is now out of date, and in its place, a heavy fine, as much as Rs. 100, is imposed on the man,

who besides is made to pay compensation to the parents of the girl of an equal sum. Among the Gare section of the Upparas, a woman guilty of immorality is thrown out of caste. Similar expulsion from the caste is the fate of a woman soiling the bed of her lord among the Ganigas, Devangas, and Nagartas. Among many castes, though in theory a woman may remain unmarried, she hardly ever does so, or is ever allowed to do so, as for instance, in Malabar. Among certain castes, such a single state of blessedness has its penalties provided ready for it. For instance, among the Bedars and some other castes, a woman dying without marriage is carried by men without a bier and is interred like tender babes—in this respect with the face downwards, no funeral ceremonies being observed. To avoid treatment of this kind among some castes (notably the Holeyas), a girl who cannot get married from the absence of suitors, is married to trees such as Honge (*Pongamia Glabra*), Ekke (*Calatropis Gigantea*) or the Margosa or other inanimate object and dedicated to shrines. She then may consort with any member of the caste or has all the rights of a son in her father's family. Marriage is thus rendered compulsory amongst the generality of castes. Divorce, though easy, is not common. There is thus reason to believe that the relations between the sexes in the State are becoming steadily more regular.

Restrictions on marriage, linguistic, territorial and other.

The restrictions on marriage are many among the generality of castes and tribes. A man must not marry outside the limits of his caste and if he is, as it often happens, a member of a sub-caste, he may not marry outside the particular sub-caste; occasionally too, he may be able to take a girl from a particular sub-caste, but not give one to it. It not infrequently happens he may and does marry with particular sub-castes and not with others. In the case of several castes (*e.g.*, Kuruba,

Holeya, Agasa, Komati, Uppara, Kumbara, Banjara, Sada, Handi Jogi, Nagarta, Telugu Banajiga and Devanga), linguistic, territorial, religious and occupational differences prove effectual bars to intermarriage. Among these, religion (excepting the Lingayat, which always creates a sharp line of difference) is seen to be the least harmful. In a very few cases, very trivial differences in the mode of pursuing the same occupation lead to the creation of additional bars to marriage. Thus among the Helavas, a begging caste found all over the State, those who use a metal bell do not intermarry with those who use a wooden bell. Then, again, the metal bells are divided into those who sit on a bull while begging and those who have given up the bull while going their rounds. The Besthas who live by agriculture, fishing and palanquin bearing respectively form separate endogamous groups. Similarly among the Gangadikara Vokkaligas, found in the western and southern parts of the State, the mode of carrying marriage articles has led to the formation of two endogamous divisions—those who use open boxes and those who use covered boxes. Occasionally differences in diet have had the effect of separating some members of the caste and making them a strictly endogamous unit by themselves. Thus the Cheluru Gangadikaras, who are pure vegetarians, marry only among themselves. Then, again, most castes are further divided into groups consisting of persons supposed to be descended from a common ancestor and so forbidden to intermarry. A man is, therefore, exogamous as regards his family group and endogamous as regards his caste or sub-caste.

While endogamy is the essence of the caste system, exogamy is found amongst primitive communities all over the world and in Hinduism is, as Sir Edward Gait suggests, probably a survival from an earlier culture. Descent, throughout the State, being traced through the

male, the general rule is that a man may not marry a girl of his own exogamous group. In this State, contrary to what prevails elsewhere, the limits set by exogamy do not extend to the families of both the parents, nor do they extend to the families of a man's maternal uncle or paternal aunt. Among most castes, as we have seen, a man marries his sister's daughter or has her for his son. Cross-cousin marriage is the general rule in the State. The connection between this and mother-right has been referred to above. It is only in rare cases—as among the Komatis—that the rule of "turning the creeper back" as it is called, prevails. According to this rule, known as *Eduru Menaricum*, a girl who has been married into a family cannot ever after give a girl in marriage to her father's family. In the same caste, the rule that the bride and the bride-groom should not belong to the same *Gotra* (or sept) prevails. Similarly we have already noted the fact that some castes allow a widower to marry his younger sister's daughter if he cannot otherwise wed. As elsewhere among the Brahmans, these exogamous groups are generally eponymous, each group or *Gotra* being supposed to consist of the descendants of one or other of the Vedic Rishis. *Gotras* with similar names are found among a few other castes (*e.g.*, Komati, Bestha, Sale, etc.) but the exact nature of their connection to the groups professedly belonging to them is not clear. It is possible that they trace their descent, not directly to the Rishis whose names they bear, but from their priests who originally administered to them and who belonged to these *Gotras*. It may be also, as suggested by Sir Edward Gait, that they trace their descent from members who originally belonged to these *Gotras*. This is one of those questions that still requires careful investigation, as indeed a great deal more of the many points relating to exogamy as practised among the castes and tribes of the State. Our present knowledge does

not enable us to say how far exogamy is absolutely primitive and how far copied from other sources. Many castes and even sub-castes have headmen of comparatively modern times as the reputed ancestors of their exogamous sections. This is the case among the Banjaras, Nagartas, Kadu Gollas, Agasas, Tigalas, Sanyasis and Idigas (among whom marital restrictions are of a most complicated character). Some groups are named after the places where the founders originally resided or are supposed to have resided. Probably the origin of "house names" is to be explained on some such basis as this. This is especially the case among the immigrant castes, such as the Dombars, Idigas, Nagartas, etc. Finally there are the totemistic groups which are found chiefly among castes of the tribal type. Traces of totemism are also found among other castes as well, but further investigation is necessary for any general inferences to be drawn from them. For instance, we cannot say from the evidence now available whether those castes which retain traces of totemism were originally tribes who slowly drifted into the orbit of Brahmanism. If so, several castes, including the Holeya, Kuruba, Bestha, Bili Magga, Kadu Golla, Medar, Golla, Kumbara, Helava, Gangadikara Vokkaliga, etc., were before their absorption into Brahmanism, in all probability in the tribal state of existence with totemism in full swing among them. Totemism as it exists in the State is of the genuine type. The totem is usually some plant, or animal, or an inanimate object (vegetable, flower, sun, moon, stone, etc.) now or until recently held in reverence by the members of the sept and associated with some taboo. Among several of the castes mentioned above, those belonging to the same totem do not intermarry. Among some castes, *Gotras* reminiscent of the Vedic Rishis have been adopted, but as among the Besthas, who have adopted the Koundinya and Kasyapa *Gotras*,

and the Sales who have adopted Markandeya as their single *Gotra*, the incorporation is meaningless, as they are not effective as bars to intermarriage. Among these, totemism, on the other hand, is not altogether dead and the association of Rishi *Gotras* with them seems to be an attempt at engrafting the Brahmanic system on to the decaying tribal ones. Among certain castes totemism is practically dead, such as Madiga, Handi Jogi, Mandaru, Sillekyata, Nagarta, etc. Among certain castes, only those living in particular areas (*e.g.*, Helavas in the Mysore District) Gangadikara Vokkaligas (in Mysore and Bangalore) have anything like totemistic septs, the others having lost them. Among non-Lingayat Sadas, there are the flower men and the *Pongamia Glabra* men, but this division has no significance in connection with marriage. It follows from this that those castes which do not now exhibit any traces of totemism might have practised it at one time though they dropped it later. Such dropping might have been in some cases, as among the Sales, Besthas, etc., preceded by the conversion of totem names into those of Vedic Rishis, for example, Kach Chap (Tortoise) into Kasyapa. Among the Komatis, among whom totemism is partially active, two or three totem septs are included in a *Gotra*. While the oneness of a *Gotra* is no bar to intermarriage, oneness of the sept is. This shows clearly that the addition of the Rishi *Gotras* is a recent attempt at engrafting two different systems of culture. The Devangas have adopted some Rishi *Gotras*, but the fact that some of these are not of the Vedic type is rather significant (*e.g.*, Bhaskara, Pippala, Malika, etc.)

Totemism.

The evidence, such as it is, warrants the general deduction that at one time totemism was widely prevalent among the people of the State. It has the usual beliefs associated with it here—those belonging to a

particular system profess to be descended from it, reverence it in daily life in a variety of ways and regard that those of the same totem (called locally Kula or Bedagu) should refrain from intermarriage. Such a connection is considered incestuous and brings on expulsion from the caste. Thus among the Kurubas, who are divided into a large number of totemistic septs, the commonest totems are among animals, the she-buffalo and the goat which are neither killed nor eaten by members of the groups belonging to them and the elephant which they do not ride; among trees, the Banyan, the Indian Fig, the *Ficus infectorea*, the wood apple, the *Prosopis Specigera* the Margosa, the sandal wood tree, the *Pinus Deodara*, the peepul, the tamarind, the *Phyllanthus Emblica*, etc., which are neither cut nor burnt nor their products (oil or cake in the case of Margosa) used, nor indeed would the people belonging to the septs named after them consent to sit under them or cross their shadows; among plants, the kitchen herb, the *Celosia Albida*, and the *Phaseolus Radiatus*, which those belonging to them abstain from eating; jasmine, pepper, *Calatropis Gigantea* which those belonging to them refrain from cutting, cultivating or using; among the heavenly bodies, the sun and the moon; among other living beings, the ant, the fish, the cobra, the peacock, the rabbit and the scorpion; and among other inanimate objects are drum, the cage, cart, silver, gold, flint stone, arrow, knife, bier, pickaxe, Bengal gram, pumpkin, pearl, ocean, pestle, glass bangles, conch-shell, salt, weavers' shuttle, etc. In the case of all these, the object after which a totem is named is not used. For instance, as regards the gold and silver and glass bangle septs, the women belonging to these septs do not use jewels made of these precious metals or use glass-bangles, but instead wear bell-metal ones. People of the sun sept will observe some sort of fast if the sun does not appear as usual and even pray

for his appearance; in the case of the cobra, scorpion, etc., they are not killed but are left off when observed. People of the pestle sept, do not use it but have instead a wooden hammer. The saffron and horse-gram septs have transferred their allegiance to the panic seed and the jungle pepper as these things are of every-day use. All the same, the people of these septs do not grow saffron and the horse-gram. The Holeyas have very similar totems, besides the earth, the crow-bar, the plantain, the cuckoo, the oil mill, lightning, pigeon, peacock, betel leaf, etc. Those belonging to the sept Nagale, a kind of thorn, do not when pierced by a thorn pull it off themselves but request one of another sept to help them out of the difficulty. Among the Bedas, similar septs prevail with some few additions, bug, net, ox, the seven mountains (of Tirupati), etc. The Besthas have besides septs named after Coral, etc.; the Komatis have as many as 101 septs including the lotus, the lime-fruit, the gourd, bamboo, brinjal, cardamom, camphor, etc. The Bili Maggas are said to have as many as sixty-six including the Brahman Kite, milk, the *Pandamus Odorotissima*, horse, sparrow, tank, paddy, rope, etc.; the Sales have an equally large number of totems including dagger, drum, mountain, nail, indigo plant, etc.; the Vaddas, likewise, have septs some of which are the pig, mortar, margosa, salt, buffalo, etc.; the Nayindas have the horse, *pongamia glabra*, jasmine, peacock, saffron, chrysanthemum, *Achryranthus aspera*, etc.; the Kadu Gollas have three primary exogamous septs, two of which are named after the bear and the moon, each of these being again sub-divided into different exogamous septs, the first of which includes the bear and the pot; the second among others of the moon, the he-buffalo and the milkhedge and the third includes the pestle, gram, hoe, etc.; the Morasu Vokkaligas have a varied number of totems of which may be mentioned the banyan, wood

apple, pomegranate, *pongamia glabra*, the bastard teak, plantain, *bassia latifolia*, mango, cocoanut among trees; the elephant, jackal, goat and the tortoise among animals; jasmine and chrysanthemum among flowers; black among the colours (men of this sept do not keep black bullocks and the women belonging to it do not wear black bangles or black clothes) and the ant-hill and conch shell and silver among inanimate objects: the Madigas, among whom totemism seems to be decaying, possess among other totems, silver, bow, umbrella, ant, gold, butter, bear, tortoise, jasmine, tiger, saffron, etc.; the Gollas have monkey, spotted cow, saffron, peafowl, peepul tree, mustard, lion, horse-gram, deodar tree, gold, sandal, etc.; the Upparas own a large number of totems which are the palanquin, elephant, saffron, moon, umbrella, coriander, *pongamia glabra*, pearl, jackal, jasmine, dagger, etc.; the Helavas living in the Mysore District possess among others the peepul tree, cobra, banyan, mortar, pestle and light, which last, those belonging to it do not extinguish by blowing it out from the mouth; the Gangadikara Vokkaligas living in certain parts of the State have totems which include the moon, silver, gold, buffalo, cat, *pongamia glabra*, fig tree, etc.; and the Lingayat Sadas are divided into as many as thirty-three septs some of which are the arecanut, pigeon-pea, butter, cobra, stone, chrysanthemum, jasmine, lime-fruit, etc.

Except among the Brahmans and those closely following them in this matter, *e.g.*, Komatis, Sales, Namadhari Nagartas, etc., marriage is usually adult. Among most, however, it may be before or after puberty, though it is generally after. Among the Brahmans, the tendency to postpone marriage as much as possible is very pronounced. The Infant Marriage Regulation has to some extent checked the inordinate desire to marry mere infants so much prevalent at Marital age.

one time among Brahmans, Komatis and a few other castes.

Forms of marriage: (a) Purchase of bride.

Among the Brahmans and those following them, *e.g.*, Nagartas, the all but universal rule is to give away the bride as a gift to a suitable bridegroom. The bride too is decked in jewels before being presented at the expense of her parents. Similarly, until recently, the bridegroom who pretended to be a pilgrim student on his way to Benares, was not paid for by the bride's parents. But for some years past, with the increase in the cost of education and competition for well-educated sons-in-law, the habit of paying—sometimes heavily—for them has come into existence. In this State, there are instances of payments ranging from Rs. 500 to Rs. 2,000 and even more for an educated bridegroom. A more refined feeling is beginning to show itself, but it will be some time perhaps before it can become anything like strong. Among the other tribes and castes, it is the bride that is always paid for. The amount varies with each caste, from Rs. 12 among the Tigalas to as much as Rs. 500 among Lingayat Ganigas and Devangas. Most castes, however, are content to bide by the ancient custom in the matter and do not arbitrarily raise the amount. This amount apparently was much more at one time than now, if some of the stories current among some castes and tribes are to be believed (*e.g.*, Korachas, Banjaras, Gollas, etc.); but owing to changed circumstances, it was lowered to enable people to marry at the proper age. The usual amount among the generality of castes is somewhere between Rs. 12 and Rs. 24 (*e.g.*, Kuruba, Holeya, Beda, Bestha, Vadda, Nayinda, Dombar, Kadu Golla, Sanyasi, Madiga, Idiga, Medar, Golla, Uppara, Telugu Banajiga, etc.). Among the Bili Magga and Sale castes, it is Rs. 24; the Kurubars pay from Rs. 25 to 50; the Gangadikara Vokkaligas pay from Rs. 20 to 35; and the

Handi Jogis from Rs. 10 to 40 and one pig. Among the Korachas, it varies from Rs. 60 to 72 and as the amount is far too high for their means, it is not uncommon among them to spread its payment over a number of years. The Mondarus pay only Rs. 6, the Helavas from Rs. 9 to 24 and the poorer Devangas from Rs. 9 to 21. There are hardly any cases in which the bride-price is excused in any caste or tribe except (1) where the bride-groom is either the maternal uncle of the bride, or where the maternal uncle, if he himself does not marry the girl, takes her for his son, where the usual amount is reduced by one half and sometimes even excused altogether; (2) when a widow marries her husband's younger brother (as among the Banjaras), no bride-price is paid; (3) where the bride is a widow and the person marrying her is a widower, then the price is reduced by one half; and (4) when there is an exchange of daughters between the marrying families, the bride-price is altogether excused on both sides. On the contrary, when a widower desires to marry a virgin, he has to pay a higher price. Sometimes this is twice what is paid ordinarily for her, besides the *Savati Hana* or the co-wife's gold. Half the price is usually paid immediately the contract of marriage is settled and betel leaves and nuts are exchanged between the parents of the bride and bridegroom and the other moiety is paid after the *tali* is tied, *i.e.*, after the contract is turned into a sacrament. Where the amount is higher—double the usual amount—or near abouts, as among the Idigas, the sale is apparently taken to be an absolute one and the girl has, therefore, to be sent to her husband's house at once and the latter might refuse to send her back to her father's house, which he could not if the smaller amount was paid, being in that case bound to send her whenever her father went to fetch her. Sometimes, as among the Kurubars, where the amount to be paid is heavy, its payment is spread over a number

of years. Occasionally, when the bridegroom is too poor to pay anything either immediately or in the near future, he is allowed to work in his prospective father-in-law's house, be fed and clothed by the father-in-law. There is no period of service fixed but usually—as among the Vaddas—the son-in-law should serve until he begets a female child and presents her to his brother-in-law. The amount of price paid, whatever it is, goes usually to the bride's mother, father or brother. But it seems fair to conclude that this was not always so Apparently the amount originally went to the maternal uncle of the bride. Among the Korachas, when the maternal uncle does not take the girl for himself or his son, he usually gets two-fifths of the price paid for her transferred over to him in the case of the first two daughters. Among the Kadu Gollas, again, the amount is taken by the father and handed over to the maternal uncle, which shows that he is rightly the person entitled to it. These and other customs pertaining to bride-price show that as the filiation changed from the mother to the father, the devolution of the price paid also changed in the same direction. This change is daily getting more and more confirmed among the urban castes by reason of contact with higher castes, who usually do not pay any price whatsoever for a bride. It may, indeed, be said, that among some castes, the bride-price though paid, is usually converted into a jewel by the parents of the bride and returned to her as such. This is so, for instance, among the Morasu Vokkaligas and the Telugu Banajigas and a section of the Devangas. Among these, it may be justly remarked, that the taking of the bride-price is getting into disfavour.

(*b*) Relics of marriage by capture.

There are a few traces of marriage by capture among certain tribes and castes. Thus, among the Bedars, Agasas, Nayindas, Idigas and Handi Jogis, a mimic

between the bridegroom's father and the bride's father, in which the indiscriminate throwing of half pounded rice is prominent, is a regular feature of the usual marriage ceremony. It is the bride that is sought to be captured, the fight customarily taking place at or near the bride's house. On these occasions, the bridegroom usually carries a dagger in his hands and is accompanied by his party who are met by the bride's party, and the mimic fight ensues immediately the meeting takes place. The bridegroom's party is taken next into the marriage booth to which the bride is brought in and placed opposite the bridegroom with a cloth as a screen between the two. At the moment the priest draws off the cloth, the bride and the bridegroom throw on each other some jaggory and cumin seed or rice, the girl, if too young or small in stature, being held up by her maternal uncle or other near relative. This apparently indicates the easy surrender of the bride after the simulated fight. One or two curious customs prevail among certain castes which might probably be relics of marriage by capture. Thus, among some of the Holeyas, five men from the bridegroom's party go to the bride's house and tie the *tali* round the neck of the bride and return to the village where the bridegroom is kept waiting all alone in a room outside the house known as *Devaramane* (or God's house). The bride comes on horseback, alights near the *Devaramane* and goes into the room occupied by the bridegroom. A cloth separates the girl and garlands are mutually exchanged. The men and the women present then throw rice on the heads of the pair. Have we here a simulation of the capture of a bridegroom by the bride? Among the Madigas, as the bridal pair come out of a room after the customary dinner, the maternal uncles of the bride and the bridegroom intercept them at the threshold and beat them with whips of twisted cloths Among the Handi Jogis, as the bridegroom and his party

approach the bride's place, they are stopped by a party of the bride's relations who hold a rope across the path. After a mock struggle in which he is worsted, the bridegroom pays down a rupee to his opponents who thereupon permit him to pass into the marriage booth. Among the Banjaras, when the couple are led to the marriage booth, the bride shows considerable resistance and is forcibly led to the place by an elderly woman. The couple then go round the milk-post three times, the bride all the while weeping and howling. In the same manner, the couple pass round the second post three times, after which the elderly woman retires. The husband once again passes round the post with the bride. Her resistance is now redoubled and he has almost to drag her by force. It is this which constitutes the binding or the essential part of the ceremony in the caste.

Marriage ceremonies, etc.

Among the generality of castes, the marriage ceremonies are elaborate and last usually for five days. The marriage in the majority of cases takes place at the bride's place, though sometimes, as among the Dombas, and a section of the Holeyas, it is also performed at the bridegroom's. Among the Kadu Gollas, however, marriage is looked upon as an impure affair and it takes place only outside the hamlet. Those who attend a marriage do not enter their houses without bathing in a tank. The marriage ceremonies include among most castes various items, the chief of which are the *Vilyada Shastra* (betel ceremony) which fixes the contract between the parties; the *Devadruta* which invokes the blessings of God and the dead ancestors on the couple; the *Chapra* (or the *Elevasa*) which is the erecting of the marriage booth in which the maternal uncle of the bride plays an important part; the *Tali* tying which turns the contract into a sacrament; the *Dhare*, the pouring of the

milk over the couple which is caught in a vessel and thrown over an anthill afterwards; the *Sase*, the pouring of handfuls of rice by married couples on the bride and the bridegroom; *Bhuma*, the eating together of the newly married couple; the *Nagavali*, the searching of two vessels containing red coloured water; the *Kankana Visarjana*, the untying of the wrist bands from off the hands of the couple; and finally the *Gaddige* (or *Simhasana Puje*), the worship of the throne, at which the members of the 18 and 9 *phana* communities are in the order of seniority shown respect by the distribution of betel-leaf and nuts. Among some castes a few more items may be found to exist, but the above may be taken as forming the principal ones in a typical marriage celebrated among most castes in the State. The binding portion of the marriage is invariably the tying of the *tali* followed by the *Dhare*. The *tali* is in most cases tied by the bridegroom. This apparently seems a later innovation. Originally it seems not improbable that it was tied, as even now among the Holeyas, by the maternal uncle. This custom, however, has entirely fallen into desuetude and the bridegroom has taken the place of the maternal uncle. The *tali* is usually a round disc of gold made flat or convex like a shallow inverted cup with a small button at the top. A string is passed through a ring attached to it and it is tied so as to hang round the neck. Among the Telugu speaking immigrant castes, the string is also woven with black glass beads on each side of the *tali* Among the Banjaras, as we have seen, going round the milk-post is the operative part of the ceremony. This circumambulation of the milk-post is performed by most other castes, but it nowhere assumes the importance it does among the Banjaras.

Other minor characteristics.

Every caste has its own occupation, and its status is well defined in Hindu society. Each caste or tribe

has also its own peculiar religious and social observances, though those which desire to seek a higher status in the social scale have not been altogether unwilling to adopt and even assimilate customs and practices hitherto largely, if not solely, identified with the Brahmans as a caste. This has been especially so in regard to marriage, including early marriage of girls before puberty and enforced widowhood and ideas of ceremonial pollution. Most castes have some account of their origin, sometimes the stories given out being most fanciful and betraying an evident anxiety to get into the hallowed circle of Hindu society. Brahmans, as a general rule, do not in this part of India take water or articles of food baked, boiled or fried in ghee from persons of other castes. Most castes, however, are willing to take food prepared by Brahmans or Lingayats. Generally speaking, it may be said that it is not considered derogatory for Brahmans to minister to the spiritual needs of other castes considered fairly high in the social scale. Most castes, however, have their own priests and among Lingayats, none but their own priests can officiate at marriages, funerals, etc. Among some castes, the custom of admitting outsiders prevails, for example, Agasa, Beda, Holeya, Madiga, Nayinda, etc. A purification ceremony precedes the admission and is held before the caste elders. It is usually followed by a caste dinner to which the new admittant is a party. Usually, the admittant is a person regarded by the caste in question as belonging to a caste higher than itself in the social scale. Caste titles vary but as already remarked, the tendency to appropriate some particular ones by those not really entitled to them is common. Caste Government of some kind is universal though its power and jurisdiction have been largely taken away from them by the Civil Courts, the tendency towards individualism which has made itself felt to an increasing extent in recent years, and the general

relaxation that has followed the emancipating tendencies of the western influences. At present, it may be said, caste tribunals have little to do with the disputes relating to property, inheritance and occupation. Their jurisdiction usually extends to questions relating to food, marriage, admission of outsiders into the caste and like matters which purely affect the particular caste as such and its general status in the accepted social scale. These tribunals are of two kinds. One is presided over by the Swamis of recognized mutts (religious orders), such as those of Sringeri, Uttaradi, Vyasaraya, etc., among Brahmans, and the Murgi Mutt, etc., among the Lingayats. These have Agents all over the State and they are recognized on all ceremonial occasions, such as marriages, funerals, etc. They collect the fees and remit them to the mutts concerned, report cases of delinquency to them and obtain their decisions on them for general promulgation among the castemen concerned. The other sort of caste tribunal is the Headman of the caste resident in each village, who decides every dispute as it arises, the chief headman being referred to only on important occasions, (*e.g.*, Kuruba, Golla, Beda, Morasu Vokkaliga, etc.). The office of the Headman is hereditary. Headmen of castes which belong to the Right Hand and Left Hand castes make use of a beadle in convening assemblies in their jurisdiction known as *Kattemanes*. The Headman, called variously Gowda, Setty or Yajaman, is usually assisted by his Deputies (as among the Bedas) or by Assessors (called *Buddhivantas*) in his work (as among the Vaddas). The parties are summoned and heard after they have been duly sworn in after the manner customary in the caste concerned (swearing by the Vibhooti or consecrated ashes after placing it on a Kumbli and making puja to it as among the Kurubars and swearing by *Janjappa* or sacred sheep as among Kadu Gollas). Then evidence is next heard and sentence pronounced. For ordinary

offences, a fine is the usual sentence. Marrying out of the endogamous unit is followed not infrequently by expulsion from caste. Some castes which are numerically strong have a more developed caste organization. Thus among Morasu Vokkaligas, several *Kattemanes*, each presided over by a Gowda or Yajaman, form a Nadu (division of country) at the head of which is a Nadu Gowda. Several Nadus form a Desa (country) presided by a Desa Gowda. There are two such, one at the head of the Telugu section and another at the head of the Kannada section of this caste. That these officers were at one time connected closely with the Civil Administration of rural areas and that even women could be Nal-Gowdas or Nad-Gowdas may be inferred from inscriptions.

Funeral ceremonies.

The dead are either buried or cremated. Cremation is universal among Brahmans, Banjaras and Komatis. The priestly section among the Helavas and other Vaishnavite Nagartas also burn their dead. Sometimes aged men among the Holeyas are also cremated. Those dying from contaminating diseases like leprosy, etc., or from wounds inflicted by wild beasts and pregnant women are, even among castes who usually bury, cremated. Among some castes—*e.g.*, the Upparas, Vaddas, Dombars, Madigas, Agasas, Telugu Banajigas and a few others—in such cases, the body is disposed of by what is known as *Kallu Sere* (or stone-service). This consists of the body being placed on suitable ground and being heaped over with stones so as to form a mound. The generality of castes bury their dead with the head turned to the south. Lingayats and those who have come under their influence, *e.g.*, Ganiga, a section of Kurubars, a section of Bedas, Silwanta Nayindas and a few others, bury their dead in the sitting posture. The Lingayat-Devangas, however, bury in the lying posture. On the other hand, Vaishnavite Holeyas bury their dead in the sitting posture.

Pollution lasts for a period ranging from 10 to 15 days. Most castes, including those who do not offer annual oblations, observe the Mahalaya new moon day as a day sacred to the dead. Among the Morasu Vokkaligas, the Holeyas of the Morasu section of that caste act as the *Hale-maga* (lit. old son) of the caste and play an important part in the burial ceremonials. In olden days, he was one of the four who carried the body, but now he walks before it. He also carries the news to relations, digs the grave, helps the chief mourner to set fire to the body and on the third day goes with the chief mourner to the burial ground and partakes of part of the food remaining over after offering is made to the spirit of the dead person, the remaining portion being thrown to the crows. Among many castes which bury the dead, the custom of planting a stone, about two feet high, over the grave prevails fairly widely. The building of Brindavanas and the setting up of Lingas by the Vaishnavas and the Saivas, respectively, is also not uncommon in several places.

Some unusual or curious customs.

Among unusual customs prevalent in the State may be mentioned a few. The existence of Couvade among the Korachas is fairly well established. When a Koracha woman feels the birth pains, her husband puts on some of her clothes, makes the woman mark on his forehead and retires to bed in a dark room. The practice exists in remote parts in the Shimoga District and elsewhere and is reported to be dying out. The Myasa Bedas of Chitaldrug District practise circumcision. Whether they have adopted this custom from the Muhammadans has still to be cleared up. But it is significant that the pig is taboo to them as an article of food. As the circumcision of women is not practised by them, it may perhaps be inferred that it has been borrowed by them. Customs of this kind, moreover, are never indigenously evolved.

The Morasu Vokkaligas of Mysore formerly had a custom, now prohibited by the Government, whereby a woman, before the ears of her eldest daughter were pierced prior to her betrothal, had to suffer amputation of the ring and the little fingers of the right hand. Among the Vaddas, a man grows his beard until he is married and removes it at the time. During the pregnancy of his wife, a Vadda will not breach a tank or carry a corpse. The Kurubars of Mysore do not consummate marriage for three months, so as to avoid the risk of having three members of the family within a year of marriage, which is regarded as unlucky. Among the Kadu Gollas, a pregnant woman in labour is lodged far off from a village and only a Beda midwife is allowed near her. After three months, the mother and the child are brought in.

Caste in proverbs.

Sir Henry Risley has drawn pointed attention to the interest that attaches to the study of caste proverbs both as descriptive of the castes themselves or of the peculiar characteristics of those belonging to them. The Mysore Census Report for 1911 devotes a section to it and to it mainly I am indebted for what follows. Proverbs convey but half truths and are not infrequently caricatures of a particular failing in a caste or community. While they should not, therefore, be interpreted literally, there is no gainsaying the fact that they give us an opportunity to know how the different castes see or view each other. To take the Brahman first, he is never a pet with other castes. His cupidity is referred to in the saying "A Brahman's avarice;" his want of foresight in "A Brahman always thinks after the event;" his want of martial spirit in "To fight a bold Brahman," which is a recommendation to a cowherd who said that he could not fight an elephant or a soldier; his poverty in "Never stand before a Brahman or a horse;" the one will beg and the

other will knock; his habit of dining late in "Never a Brahman's servant or Ganiga's Bull;" his excessive waste in ceremonials in "The Brahman earns for Sraddhas, the Holeya for drink and the Vokkaliga for the fine;" his setting people by the ears in "A Brahman's presence destroys a village as that of a crab over a tank;" his unusual physical transformation in "Never trust a black Brahman or a white Holeya;" his desire for tasty food in "The Brahman is for a good meal." The Vokkaliga comes in as much for praise as for blame. "Agriculture not done by a Vokkaliga is no agriculture," but he "pawns jewels for a feast" and he is generally "friendless." The Komati is badly caricatured in many sayings. "A Komati's trick" is something too palpable to be just. "A Komati's secret" is one that would only be known after his death. His cleverness in account keeping is testified to in "The Komati may fall, but will never fail in his accounts." His general astuteness is referred to in "The Komati will never be deceived, and if he is, he'll never tell." That he is not taken to be the guileless individual he wishes to be taken for is probably hit at in "You can stand a Brahman's anger but not a Chetty's smile." His care for recompense is alluded to in "The Chetty never enters a flood unless there be a profit for the trouble." A general characteristic of the caste itself is, perhaps, referred to in the saying which styles it "The coriander caste." The Komatis as a caste, it would seem, would not yield unless threatened just as the coriander will not sprout up unless it is rubbed hard against a rough substance before sowing. The Kumbara's weary labour is pointed to in "It takes a year for a Kumbara but a minute for a stick." The Akkasale's wily nature is touched upon in "The Akkasale will not scruple to take from the gold given to him for work by his sister or mother." But that he is appreciated and patronized by all in the village is plain from "The Akkasale knows

whose ornaments are made of gold just as the Agasa knows the poor of the village." The Agasa's inveterate habit of appearing in the clothes of his constituents is ridiculed in "The Agasa is with his master's finery." The dirty habits of the Nayindas are betrayed in "One can dine out of an Agasa's hand but never in a Nayinda's courtyard." The Ganiga's hard-worked bull is referred to in "Never take a bull from a Ganiga." The Telugu Banajigas are described in "A Banajiga as small as a garlic tuber and the village is ruined." The nature of the Salè's task is well put in "A Salè is ruined by separating from his partner, while a Chetty is from having one." The Koracha's tenacity is alluded to in "Even if a Koracha is beaten, he won't give out the truth," which is very true. His cringing propensity in "To cringe like a Koracha;" his cheating habit in "To cheat like a Korava" and his palpable injustice in "The Koracha's justice is the ruin of the family." The poverty of the mendicant Jogi is neatly hit off in "When Jogi and Jogi clasp, both are smeared with ashes" and no more, for, there is nothing to rob, and his means of livelihood in "The Jogi's knapsack is on his shoulder the moment he gets up." That agriculture and the Holeya are widely apart is referred to in "Never engage in agriculture depending on the word of a Holeya." That the Madiga is no *persona grata* with any one is clear from "No truth in Vedas and no Madiga in Heaven."

Brief Descriptions of Main Castes and Tribes.

General.

The brief descriptions of the main castes and tribes found in the State given below are based primarily on the late Mr. Nanjundayya's monographs on them. Those interested in the subject should refer to them for further particulars. The Glossaries of castes included in the Madras and Mysore Census Reports for 1901 and the Mysore Census Report for 1911 and Mr. Thurston's *Castes*

Tribes of Southern India may also be advantageously consulted by them. Some useful information will also be found in the Madras and Mysore Census Reports for 1891.

Banajiga.—Kannada and Telugu Tradesman. The term Banajiga is derived from Vanik, Vanijya, trader. Only a sixteenth part of the caste, however, engage in trade, the rest being agriculturists. The two main divisions are Panchama (or Lingayat) and Telugu, who do not intermarry or interdine. The Telugu is sub-divided into (1) Dasa, who are chiefly found in Channapatna and state that they are Jain converts to Vaishnavism; (2) Ele, or Tota, because they grew chiefly the betel vine; (3) Dudi, traders in cotton; (4) Gazula or Setti, bangle sellers; (5) Nayudu, or Kaata; (6) Ravut or Oppana, who profess to be the descendants of soldiers sent to the country during the days of the old Vijayanagar kings; Mannuta (also called, Dandi Dasaris) who are wandering hawkers and beggars, etc. Many Ele and Dasa Banajigas speak Kannada, while to the rest of the sub-divisions Telugu is the home language. Marriage is infant or adult, though usually the latter. Except among the Mannuta sub-division, widow remarriage is strictly forbidden. Divorce is not allowed. This caste is at the head of the Right Hand section of castes. The Headman is called Desada Setti and he occupies a very influential position in society. His insignia of office (the bell and ladle) is carried by the Chalavadi of the Holeya caste. The dead are buried. The Lingayat Banajigas practise infant marriage, prohibit widow marriage and interdict animal food and intoxicating drinks. They have Jangam Gurus. The usual caste titles are *Ayya, Anna, Setti,* and *Nayudu.* Banajiga (1,35,000).

Beda.—They sometimes call themselves Palegars, because some of the old Palegar families belong to this caste, Gurikars (Marksmen) and Kiratas (Hunters). From the Beda (2,71,000).

fact that Valmiki, the famous author of the *Ramayana*, is described as a Beda, they also style themselves Valmiki. They claim, besides, that Kannappa Nayanar, one of the 63 devotees of Siva, belonged to their caste. The term Beda is derived from Vyadha which means Hunter. Hunting is the traditional occupation of the caste but most have taken to agriculture. Many of the caste were soldiers in the armies of the old Vijayanagar Kings and Hyder. Telugu was probably the original language of the caste but Kannada is now the language of those living in essentially Kannada Districts. The caste is divided into several endogamous divisions:—(1) Uru Bedas or Chinna Boyis; (2) Myasa Bedas or Pedda Boyis; (3) Uremc Bedas; (4) Monda Bedas, etc. The first of these live in villages; hence their name *Uru*. They form by far the largest division of the caste. The Myasa Bedas are mostly found in the Chitaldrug District. They practise circumcision and do not eat fowls and pigs. Until recently, they lived only in jungles. The Monda Bedas are the wandering section of the tribe and live entirely by begging from other castes. The various divisions are still further sub-divided into numerous exogamous septs, each named after a plant or an animal and sometimes an inanimate object. Most of them appear to be totems. Marriage is generally adult though infant marriage is not altogether unknown. The usual bride-price is Rs. 12. Widow re-marriage is allowed. Divorce is permitted. The dedication of daughters as *Basavis* for perpetuating the family is practised. The dead are usually buried. Members of the higher castes are admitted into the caste after a regular ceremony in the presence of castemen. *Illatom*, or the affiliation of the son-in-law, is sometimes resorted to in the caste. The usual title is *Nayak*

Bestha. (1,58,000)

Bestha.—These form the fisher folk of the State. In the eastern districts, they are called Besthas; in the southern,

as Toraya, Ambiga and Parivara (Boatmen); and in the western, as Kabyara and Gangemakkalu. They speak Kannada. Though fishing is the traditional occupation, a great many follow lime-burning, palanquin-bearing and cultivation. These differences in occupation have become bars to inter-marriage among the sections following them. The name Bestha is derived from the Kannada word *baesad*, thrown, from the throwing of the net to catch fishes. The caste is divided into numerous exogamous septs, which appear to be totemistic in origin. Marriage is both infant and adult. Re-marriage of widows and divorce are allowed. The bride-price is Rs. 12. The practice of dedicating girls as *Basavis* is said to be getting into disfavour. The dead are usually buried. The usual titles are *Raju*, *Nayaka* and *Boyi*.

Brahman (2,16,000).

Brahman.—The traditional occupation of this caste is the study of the Veda, the offering of sacrifices and teaching. According to the early text-writers, only a Brahman learned in the Veda has a right to the prerogatives of his caste. One not versed in the Veda is, according to them, only a Brahman by birth. The *Bhagavad Gita* defines the true Brahman as one who is attached to the Brahman. A true Brahman is also described as a person who swerves not from the truth. Manu compares unworthy Brahmans to cats and herons (hypocrites). According to him, a Brahman cannot acquire money by sacrificing or teaching. The *Satapatha Brahmana* thus describes the four qualifications of a Brahman; Brahmanical descent, befitting deportment, fame and the perfecting of the people. Vishnu defines a Brahman as one who is benevolent towards all creatures. With the Buddhists, the Brahman was not *sacro sanct*. We have in the *Dhammapada* the following negative definition: 'A man does not become a Brahman by his plaited hair, by his family or by birth:

in whom there is truth and righteousness, he is blessed, he is a Brahman.' The *Sutta Nipada* describes three kinds of Brahmans: Titthiyas, Ajivakas and Niganthas. The *Buddhist Suttas* ascribe fanciful powers to the Brahmans. By intense meditation, they say they can cause an earthquake. In the *Questions of King Milinda*, we find Buddha calling himself a Brahman, *i.e.*, an Arhat. In the *Jaina Sutras*, likewise, Brahman is given as a title of Mahavira. The same *Sutras* hold that real Brahmanhood is to be found among those who are not attached to the world. This seems to be an echo of the Upanishads which proclaim, "Let a Brahman become a Muni and then he is a Brahman." For ages, however, Brahmans have lived the householder's life. The very descriptions of the Brahman given in the different texts show that slowly from a mere sacrificial priest, the Brahman developed into a layman. At present, Brahmans in this State, as elsewhere, are only to a limited extent followers of their traditional occupations. They are mostly landowners, officials in Government Service, and members in the learned professions. Their customs and habits are too well known to need special mention here. A few facts relating to the many divisions into which they are cut up, the different languages they speak, the various religions adhered to by them, however, merit attention. These will show that they are more a community than a caste and that they are no more homogeneous than other such communities are or can be.

The Brahmans are, according to their original location or language, divided into Pancha Gauda, *i.e.*, the five sections of the Gauda country, the country north of the Vindhyas, and the Pancha Dravida, the country south of the Vindhyas. The Pancha Gauda include the following:—

(1) Kanya Kubja (United Provinces);
(2) Sarasvata (Punjab);
(3) Gauda (Delhi and Bengal)

(4) Maithila (Behar) ; and
(5) Utkala (Orissa).

The Pancha Dravida comprise the following :—

(1) Karnataka or Kannada ;
(2) Andhra or Telugu ;
(3) Dravida or Tamil ;
(4) Maharashtra or Mahratta ; and
(5) Gurjara or Guzerati.

While a few of the first three sections of the Pancha Gauda and of the fifth of the Pancha Dravida are found in the State, the bulk of the Brahmans in it belong to the first four sections of the Pancha Dravida.

Among these four, the first, the Karnataka preponderates, being more than the total of the other three. These seldom inter-marry and retain, despite the long interval that has elapsed since their immigration into the State and the vicissitudes they have passed through, their original languages. Brahmans generally are further sub-divided into a number of *Gotras*, the original progenitors of which were seven principal *Rishis* or sages. In the unlimited ramifications of *Gotras* which have branched out from the parent stems, the line of descent is exhibited in the *Pravara* pedigree and a man and woman of the same *gotra* and *pravara* never marry together. The connection of the *gotra* is entirely in the male line, a woman on marriage being affiliated to the husband's *gotra*. The following are the strongest *gotras* in Mysore containing over 7,000 in each :—

Bharadvaja	Gautama
Kasyapa	Jamadagni
Visvamitra	Angirasa
Vasishtha	Vadhula
Srivatsa	Sandilya
Atreya	Maudgalya
Kausika	Maunabhargava
Kaundinya	Gargyayana
Harita	Sathamarshana

Altogether sixty-nine *gotras* are represented here, the remainder, in alphabetical order, being—Achyuta, Agastya, Ambarisha, Asvalayana, Badarayana, Barhaspatya, Chopagayana, Devaraja, Dhananjaya, Galava, Gauda Sarasvata, Ghritasamsa, Havikarma, Kalakausika, Kamakayana, Kanva, Kapi, Katyayana, Kosala, Kundalai, Kutsa, Lohita, Maitreya, Mandavya, Maunjyayana, Mitravasu, Mohana, Nistudhana, Parasara, Parthiva, Paulastya, Paurakutsa, Putamansa, Rajendra, Rathitara, Salankayana, Salavatsa, Sankalika, Sankarshana, Sankhyayana, Sankriti, Santasa, Saunaka, Svantantrakapi, Upamanya, Vadhryasva, Vaikhanasa, Vaisampayana, Vamana, Vishnuvardhana and Vyasa.

In addition to the *gotra* there is the *sakha* or particular branch or school of the Veda which each man professes to follow in the performances of his sacrifices and rites. Classified on this basis, there are in the State, nearly as many Rig Vedis as there are Yajur and Sama Vedis together. There are none apparently who acknowledge adhesion to the Atharva Veda. They are also further divided into those who follow the Apastamba Sutra and those others who follow the Asvalayana Sutra. The latter seem to preponderate in the State.

The Brahmans in the State, moreover, belong to one of the three main sects:—Smartha, Madhva and Sri Vaishnava. The Smartas are more than twice the strength of the Madhvas and Sri Vaishnavas put together.

All these three sects are composed of either Vaidikas or Laukikas, the former, consisting of those who devote themselves entirely to religion and live partly on charity and partly on their earnings as priests; the latter, those who attend to temporal affairs. The distinction, however, is merely an individual one, as different members of the family may be either Vaidikas or Laukikas according to inclination.

The Smarthas derive their name from Smriti, the code of revealed or traditional law. They always worship the triad of Brahma, Siva and Vishnu under the mystic syllable OM, and while admitting them to be equal, exalt Siva as their chief deity. They hold the Pantheistic Vedanta doctrine of Advaita or non-dualism, believing God and matter to be identical and everything to be an atom of divinity, they themselves being parts of the Supreme Being. The founder of the Smartha Sect is Sankara or Sankaracharya, the Hindu reformer of the eighth century, and their Guru is the Sringeri Swami, designated the Jagad Guru. Probably the very ancient sect of the Bhagavata or the Bhagavata Sampradaya, are reckoned as Smarthas, but they incline more to Vishnu worship. The Guru of the Bhagavatas is at Talkad. The distinctive marks of a Smartha Brahman are three parallel horizontal lines of pounded sandalwood, or of the ashes of cowdung on the forehead, with a round red spot in the centre, but the Bhagavatas wear perpendicular Vaishnava marks.

The Madhvas are so called from Madhvacharya or Madhva, the founder of the sect, who arose in South Kanara in the 13th century. They worship both Vishnu and Siva, but more particularly the former. They profess the doctrine of Dwaita or dualism, considering the creator and the created to be distinct, and their final absorption to be in the future. It appears that they may be divided into the Vyasakuta and the Dasakuta. The former adhere strictly to the religious teachings of the founder, which are entirely in Sanskrit. The latter base their faith on the hymns and writings in the vernacular, which they can understand, of persons of their sect distinguished as Dasas or servants of God, and they go about with musical instruments singing these in honour of the Divine Being. A Madhva Brahman is known by a black perpendicular line from the junction

of the eyebrows to the top of the forehead, with a dot in the centre. A Smartha may become a Madhva, and *vice versa*, but the former happens oftener than the latter. In such cases, inter-marriages between persons of the same circle are not prohibited, though they embrace different doctrines, but the wife always adopts the tenets of her husband.

The Sri Vaishnavas, also called Aiyangars, are worshippers of Vishnu, as identified with his consort Lakshmi or Sri, whence their name. The founder of their sect was Ramanuja or Ramanujacharya, who lived in the Chola and Mysore countries at the beginning of the twelfth century, and after him, they are also called Ramanujas in some parts of India. Their creed is the Visishtadwaita, which differs from the Dwaita in attributing both form and qualities to the deity. In Mysore, their Guru is the Parakalaswami of Melkote. They are the most exclusive of all the Brahmans in points of food and inter-marriage, the orthodox among them requiring curtains to screen their food from the gaze of others, even their own relations and fellow-sectarians. They form two principal divisions, the Tengale or southern and the Vadagale or northern. The distinction between the two arises from dispute as to certain doctrinal points, said to be eighteen in number, which were formulated some four centuries back, in Sanskrit and Tamil verses, by Manavala Mahamuni on the side of the Tengale, and by Vedanta Desikar on the side of the Vadagale, and the dispute has placed a gulf between the parties ever since. There are some differences also in social observances. The Tengale, for instance, do not subject their widows to the tonsure, which is usual among other Brahman sects. They also give more prominence to the vernacular versions of their Sanskrit sacred writings. The Sri Vaishnavas are known by the *nama* or trident on the forehead, the centre line being yellow or red, and

the two outer ones white. The Tengales distinguish themselves from the Vadagales by continuing the central line of the trident in white for some distance down the nose.

The three main sects above described contain nearly eighty recorded sub-divisions, distinguished by names which are mainly territorial or numerical in origin. The derivation of many of the names appears to be unknown even to those who bear them.

Those included under Smartha and Madhva, in alphabetical order, are:—Adi Saiva, Aruvattu-vokkalu, Aruvelu, Aruvelu Niyogi, Ashtasahasra, Badaganad, Bhagavata Sampradaya, Bodhayana, Brihatcharana, Chitpavan, Desastha, Devalaka or Sivaradhya, Dravida, Hale-Karnataka or Hale-Kannadiga, Havika or Haiga, Hoysaniga, Kambalur, Kamme (Babbur, Kannada, Ulcha and Vijapura), Kandavara, Karade, Karnataka, Kasalnad, Katyayana, Kavarga, Kilnad, Konkanastha, Kota (or Kaikota and Ippatnaikaravaru), Kotisvara, Kusasthala (or Senve), Madhva (Vaishnava and Pennattur), Mulikinad or Murikinad, Namburi, Nandavaidika, Niyogi, Panchagrama, Praknad, Prathamasakhe (Kanva, Madhyanjana or Yajnavalkya), Sahavasi, Sanketi, Sarvarya, Sirnad, Sisuvarga, Sivalli (or Kuruvalli), Sukla Yajussakhe Telaghanya, Totada Tigala, Tulava, Uttaraji (or Uttaradi), Vadama, Vadhyama, Vangipuram Veginad, and Velnad.

The stongest of these divisions numerically are those returned simply as Smartha; Badaganad; Desastha; Kamme (Babbur, Kannada and Ulcha); Mulikinad; Hoysaniga Dravida; Hale Karnataka and Vaishnava (Madhva).

The Badaganad had their origin in the northern (Badaga) districts (nad) and speak Kannada; they are both Smarthas and Madhvas. The Desastha are immigrants from the Mahratta country, and mostly retain

the use of Marathi; they are Smarthas and Madhvas, the latter preponderating; but the difference of faith is no bar among them to inter-marriage and free social intercourse. The Babbur Kamme are all Smarthas; the Kannada Kamme and the Ulcha Kamme are both Smarthas and Madhvas; nearly all speak Kannada, a few Telugu also. The Kamme country seems to have been to the east of the Kolar District. The Mulikinad or Murikinad are Smarthas from the Cuddapah District speaking Telugu. The present chief priest of Sringeri is of this sect. The Hoysaniga, also called Vaishaniga, are chiefly Smarthas and speak Kannada. Their name may be derived from the old Hoysala or Hoysana Kingdom. The Dravida, Vadama and Brihatcharana or Pericharana may be taken together; they are immigrants from the Tamil Country, and are Smarthas speaking Tamil, and a few Telugu. The Hale Karnataka, or Hale Kannadiga, are mostly confined to the Mysore District, where they are generally village accountants. There are two branches, Mugur and Sosale. They are nearly all Smarthas, and their language is Kannada. Though their claim to be Brahmans is apparently not denied, they were for some reasons, till recently, under a sort of ban, and often called by a nickname; but about twenty-five years ago, they were publicly recognized by both the Sringeri and Parakala Mathas. Other Brahmans, however, have no intercourse with them, social or religious.

Of the other sects, the Aruvelu, or the six thousand are both Smarthas and Madhvas, and speak both Kannada and Telugu. The Aruvelu Niyogi are a branch of them, who are *laukikas*, or devoted to secular callings. The Aruvattu-vokkalu or sixty families originally formed a portion either of the Aruvelu or the Kamme, but were selected as his disciples by Vyasaraya Swami of the Madhva faith, some four centuries ago. It is a popular

misnomer that all of this sect are Madhvas. This, however, is not correct. A few are still Smarthas. The small sect of Kambalur or Totada Tigala, mostly in the Shimoga District, are also connected with the Aruvelu. Moreover, the Uttaraji or Uttaradi appear to have branched off from the Aruvelu, some three or four centuries ago, when they became the disciples of Sripada Raya.

The Chitpavan are Mahrattas and Smarthas. The Havika or Haiga are immigrants from Haiga, the ancient name of North Kanara, and they are almost entirely confined to the west of the Shimoga District. They are Smarthas, and are now principally engaged in the cultivation of the areca-nut gardens. According to tradition, they are of northern origin, and were introduced by one of the Kadamba kings, in the third or fourth century, from Ahichhatra. This would bring them from Rohilkhand, but Ahichhatra may be only a learned synonym for Haiga. The name Havika is said to be a corruption of Havyaka or conductor of sacrifices, and perhaps it was for such purposes that they were imported at a time when there were no Brahmans in those parts. The small communities of Kandavara, Kavarga, Kota and Kotiswara, Kusasthala, Sisuvarga, properly Sishyavarga, with the Sivalli are Tulu Brahmans, immigrants from South Kanara, the ancient Tuluva, and mostly located in the western districts. They mostly engage in agriculture and trade and speak Tulu and Kannada. The Karade or Karhade are Mahrattas from Karhad. Some of them are employed in the Revenue Survey. The Konkanastha are also Mahrattas from the Konkan, and are Smarthas. The above two sects do not inter-marry, but mix freely in other respects. The Nandavaidika are from the Telugu country, are both Smarthas and Madhvas and speak Telugu and Kannada. The Prathamasakhe and Suklayajussakhe or Madyandina are both Smarthas

and Madhvas; they speak Telugu and Kannada. The Sahavasis are immigrants like the Chitpavan from the Mahratta country.

The Sanketis are Smarthas from Madura, and speak a corrupt mixture of Tamil and Kannada. There are two branches, the Kousika and the Bettadpur, so named from the places in which they first settled, which are in the Hassan and Mysore Districts. They eat together, but do not inter-marry as a rule. The Kausika, however, who were the first comers, are said occasionally to get wives from the Bettadpur, but in such cases, the girl's connection with the latter altogether ceases. The Sanketis reverence a prophetess named Nacharamma or Nangiramma, who seems to have been instrumental in causing their migration from their original seats. The story about her is given in the first edition of this *Gazetteer*. The Siranad have two divisions, the Hale Siranad, who are Smarthas, and the Hosa Siranad, who are chiefly Madhvas. Both speak Kannada and derive their name probably from Sira in the Tumkur District. The Vengipuram are all Smarthas, speaking Telugu. The Velnad are also Telugu Smarthas, and resemble the Murikinad. They are mostly in the south and the east. The Venginad are Smarthas and speak Kannada.

The sub-divisions of Sri Vaishnavas, in alphabetical order, are:—Bhattaracharya, Embar, Hebbar (Melnatar), Hemmigeyar, Kadambiyar, Kanade, Kilnattar, Mandyattar, Maradurar, Metukunteyar, Morasanad, Muncholi or Choli, Nallanchakravarti, Prathivadi-Bhayankarathar, Somesandal or Attan-kutattar and Tirumalaiyar.

The Bhattaracharyas are Tengales, and generally Vaidikas; they speak Telugu and Tamil. The Embars are Tengales from Srirangam and speak Tamil. The Hebbars are descendants of immigrants from the Tamil country, who settled in five different villages, and were hence also known as the Panchagrama. These places

were Grama (Hassan District), Kadaba (Tumkur District), Malur (Bangalore District), Hangala (Mysore District) and Belur (Hassan District). Hebbar was the old Brahman designation of the Headman of a village, as Heggade was of the Jains, and these names still linger in the west. It is said to be a corruption of *Heb-harava*, or the Head Brahman. The settlers in Grama, it appears, had acquired this title, which owing to their connection was extended to all the Panchagrama. They all eat together and inter-marry; are both Tengale and Vadagale and speak Tamil. The Hemmigeyar are all Vaidikas and Vadagale, settled at Hemmige near Talkad, which is said to have been granted by the king of the day, to one of their ancestors as a reward for distinguishing himself in a literary discussion. Their language is Tamil. The Mandyattar are immigrants from a village called Mandyam near Tirupati. They are located in Melkote and Mandya, the latter being named after their native place. They are all Tengale and speak Tamil. The Maradurar are similar settlers at the neighbouring village of Maddur, which is a corruption of Maradur. The Metukunteyar are Vadagale and disciples of Parakalaswami. They speak Telugu and Tamil. The Muncholi and Choli are so called because they retain the lock of hair in front of the head, are Tengale and their language is Tamil. The Nallanchakravarti are Vadagale from Conjeevaram and are all Vaidikas. Prathivadi Bhayankarathar, meaning the terrifiers of the opponent disputants, are Tengale and are Vaidikas from Srirangam, speaking Tamil. The Somesandal are Vadagale and chiefly Vaidikas, from the same part and speak Tamil. The Tirumalaiyar are descendants of Kotikanyadana Tatacharya, whose name implies that he had given away a million daughters in marriage. They are all Vadagales and Vaidikas and seem to have come from Conjeevaram. They speak Tamil.

The temple servants, or Brahmans who act as Pujaris, are all Vaidikas, but are considered to have degraded themselves by undertaking such service, and the other Brahmans will have no connection with them. The Sivadvija or Sivanambi and Tamballa are of the Smartha sect and officiate in Siva temples. The Vaikhanasa and Pancharatra belong to Sri Vaishnavas and officiate in Sri Vishnu temples. The Tamnadis who officiate in certain Siva temples, are Lingayats.

Golla. (1,56,000).

Golla.—The traditional occupation of this caste is tending of cows and living by the sale of milk and its products. At present, only a few of this caste follow their original calling, agriculture being the main occupation of the rest. The name Golla is derived from Sanskrit Govla or Gopala, which signifies cow-herd. The caste is most numerous in the Tumkur, Chitaldrug, Bangalore and Kolar Districts. It consists of two divisions, *Uru Gollas* and *Kadu Gollas* who differ widely in their customs. The original language of the caste appears to have been Telugu. At present, however, those in the purely Kannada parts of the State have adopted Kannada as their home language.

The *Uru Gollas* are divided into numerous endogamous sub-divisions, some of which are the following:—Onti-Chapramavallu, those of the single marriage booth and Rendu-Chapramavallu, those of the double marriage booths, one at the bride's and the other at the bridegroom's; Yerra or Kilar Gollas, supposed to be superior to all the rest in status; Punagu or Kudi Paita, those whose women folk wear the skirt from over the right-shoulder; Puni or Puja; Karne or Raja Mushti; and Bokkasamu or Bigamudre. The last of these (lit. the lock and seal section) were in former times the guards of the treasury. Even now, the menials who open and lock the Government Treasury and handle the money bags

are known as Gollas. Buchanan has an interesting note in his *Travels* on this section in which he says that among them embezzlement of public money entrusted to them was, if proved, severely punished, the delinquent being immediately "shot." The Gollas have a number of exogamous divisions which bear undoubted marks of their totemistic origin. Marriage is usually adult, though infants are occasionally married. The bride-price is Rs. 15. Widow re-marriage is not permitted. *Illatom* adoption is common. Divorce is allowed, though a divorced wife cannot re-marry. The dead are usually buried. Persons dying as bachelors are deified as Iragararu (*Viras* or heroes) and sculptured stone memorials are raised in their honour. The Gollas are usually devout Vaishnavites, many among them becoming Dasas (or Dasayyas) and leading a mendicant life. The usual title is *Gauda*. Kilari Gollas style themselves as *Nayudu*.

Kadu Golla.

Kadu Golla.—Kadu Gollas are in some respects a unique caste. They state that they are immigrants from Delhi and its neighbourhood. They speak Kannada. The caste is divided into three endogamous septs known as Karadi Gollaru (or the bear tribe), Chandinavaru (or the moon tribe) and Rame Gaudana Kuladavaru (or those of Rame Gauda's tribe). These, again, are each divided into different exogamous septs known after animals, plants and other inanimate objects. Some at least of these appear to be totemistic in origin. Thus, those of the *Hurali* (or horse-gram) sept do not eat or touch horse-gram. The headman of this sept does not even pass through the field in which horse-gram is grown; if compelled by necessity, he is carried over the field by people not belonging to his caste. Marriage is usually adult. A bride-price of Rs. 14 is paid. Widow re-marriage is not permitted. Divorce is allowed, but a divorced woman

cannot re-marry. The dead are usually buried. Sheep and cattle breeding has been from time immemorial the occupation of the caste. Each hamlet inhabited by the caste has a Yajaman (or headman) who wields considerable powers among the residents of the place. Junjappa, the caste deity, is a glorified cowherd and is taken by the caste as a later incarnation of Sri Krishna. Before the caste council, parties swear by Junjappa or the Jennige Kuri (or sacred sheep marked by the longitudinal cuts in its ears), while each hamlet has one or more Jennige Kuri. The usual caste titles are *Golla Gauda* or simply *Gauda*.

Holeya (6,50,000).

Holeya.—Holeyas are the chief agricultural labourers in the State. They correspond to the Telugu Mala and the Tamil Paraiyan. They form a tenth of the population of the State and are found in almost every part of it. The name is derived from *Hola*, a field, Holeya thence meaning a field labourer. They belong to the Balagai section and as such form part of the 18 Phana party. They speak Kannada. They consider themselves superior to the Tamil Paraiyans, who eat in their houses, though the compliment is not returned. The caste is divided into several territorial and occupational sub-divisions such as Gangadikara, Morasu, Dasa, Magga (Weaving), Hagga (rope-making), etc. Of these, the Gangadikaras are considered the highest in the social scale among themselves. They do not dine with the rest of their brethren and purify vessels touched by them and throw away earthen pots used by them. Each of these sub-divisions is again split up into numerous exogamous septs which seem to be totemistic in origin. Marriage may be adult or infant, though some partiality is shown for the latter. Dedication of girls as *Basavis* prevails. Divorce is easy, but is subject to the repayment of the part of bride-price paid and the marriage expenses in full. The dead are usually buried.

Men of higher castes are admitted into the caste after the usual purification ceremony. The members of this caste generally live together in a part of the village called the Holageri (lit: the quarter of the Holeyas). In Mysore City, many have built tiled houses. They are hard-working, intelligent and industrious, and have taken to a variety of useful occupations.

The Holeyas, besides their other duties, are also village watchmen and general messengers. In these capacities, they are known as Chalavadis and Kulavadis. The Chalavadis act as servants of the Right Hand castes, convening their meetings whenever required. They are also the custodians of the symbol of those castes, the bell and the ladle. They are made of brass, and are connected together by a chain of the same metal. A Chalavadi carries the ladle on his right shoulder and heads the procession of all the Right Hand section people, sounding the bell with the shake of the chain. These insignia are also produced at caste assemblies and at the marriages of the Right Hand section castes. They are placed before the Sangameswara Gaddige and worshipped. The spoon has on it engraved the badges of different castes composing the Right Hand section, such as the plough of the Vokkaliga, the scales of the Banajiga, the shears of a Kuruba, the spade of a Vodda, the razor of a Barber, the washing stone and the pot of an Agasa, and the wheel of a Kumbara. They also contain a bull banked on either side by the sun and the moon. At the foot of the spoon are also engraved the figures of an Ass and a *Basavi*.

Jain.—The term Jain signifies more a religion than a caste. In it are found persons belonging to different castes. Thus there are Brahmans, who usually call themselves Jain Brahmans; there are traders who go under the name of Chaturlakshatri; another set of traders who call Jain. (20,700).

themselves Panchama Kshatri; and there are the weavers, calenderers and dyers who call themselves Gadiyas. Some of the Sadas (q. v.) in the State are Vokkaligas by profession, but in religion are Jains. The two main sects of the Jain religion are the Digambara or sky clad (*i.e.*, nude), and Svetambara or white clad. This sectarian distinction cuts right through the castes professing the Jain religion. The Svetambaras form a small number in Mysore. Most of the immigrant traders of the Marwari community in Bangalore belong to this sect. The Digambaras are indigenous to the State. They are found chiefly in the districts of Shimoga, Mysore and Hassan. Sravanbelagola, in the Hassan District, is their chief seat. They are generally engaged in trade, selling mostly brass and copper vessels. In recent years, they have progressed much in this trade, a flourishing joint stock concern being worked by them in Sravanbelagola. Some engage in agriculture as well. For the rise and progress of Jain religion, see Chapter VIII. The usual caste title of Mysore Jains is *Ayya*.

Kuruba (4,00,000).

Kuruba.—A caste of shepherds and blanket weavers, found in all districts but in largest numbers in Mysore. A good portion, however, follow agriculture. They speak Kannada, though in parts of Kolar, they have adopted Telugu as their mother tongue. The Madras Census Report of 1891 connects them with the Pallava Kings of the South. This seems apparently based on the narrative included in the *Kongu Chronicle*, a work which has now been shown to be one of those which should be used with care. It is not impossible, however, that the earliest kings of many dynasties of the South rose from this caste. Those now found in the State seem to have reached it from Mailara, in the present Bellary District. The caste is divided into three endogamous divisions, *Halu*, *Ande*, and *Jadi* or *Kambli*.

Various alternative names for each of these divisions are given in different parts of the State. The first of these divisions is, in some places, found divided into three further sub-divisions of Somavaradavaru, those who worship their gods on Monday, Brihaspathivaradavaru, those who worship on Thursday and Adityavaradavaru, those who worship on Sundays. The Halu Kurubas, who are by far the largest and most important division found in the State, abstain from liquor. The Kambli section, on the other hand, seem to indulge in it. Ande Kurubas are so called because they used to collect the milk of their sheep in a bamboo cylinder styled *Ande*. The Kambli Kurubas weave coarse woollen blankets and the women dress themselves with aprons of Kambli. Each of the three divisions is further sub-divided into several exogamous septs, named after plants, trees, animals, etc., which are venerated in many ways by the septs belonging to them. In some at least of these cases, their totem origin is still being kept up. One of these is Samanthi (*Chrysanthemum*) from which the caste priests are recruited and consequently held in greater respect by the rest. They wear the *Linga*, doubtless the result of their coming under Lingayat influences. Marriage is either adult or infant. The bride-price is Rs. 12. Widow re-marriage is permitted. Girls are dedicated as *Basavis*. Divorce is allowed. Outsiders are not admitted into this caste. The dead are usually buried. The caste is well organized, being divided territorially, a Gauda (or headman) being at the head of each territorial section or division. Saivism is professed by many, though Veera-saivism (with the wearing of the *Linga*) is also followed by a great portion of the caste. The tribal God is *Bira* (lit: a hero). The usual titles are *Gauda* and *Heggade*.

Lingayat. (7,15,000).

Lingayat.—This is not the name of a single caste but a general designation for several castes, the members of

all of which wear the Linga on their bodies after due initiation. In fact, there are many castes included in the name. A Lingayat, indeed, may belong to any caste from the Brahman to the Madiga. When a man who belongs to one of the traditional Hindu castes becomes a Lingayat, he has a new caste name given him. All Lingayats do not interdine, nor do they intermarry. Race has proved too strong for religion. The worship of the Linga is a very ancient one in India. It has been identified with phallic worship, which was known to primitive man in various parts of the world (*Vide* Chapter VIII). Linga worship has been supposed by some authorities to be recognized in the Pravargya (ceremony at Soma sacrifice), of the *Sathapatha Brahmana*. (See *Sacred Books of the East*, Vol. 44, XLVII.) The Lingayats in this State, as indeed elsewhere in Madras and Bombay, are found engaged in all occupations—agriculture, commerce, public administration and the professions. To them is largely due the preservation and purity of the highly polished Kannada language. Various excellent accounts of their history and religious tenets and observances have appeared in recent publications, such as Hastings' *Encyclopadia of Religion and Ethics*, wherein Mr. Enthoven, I.C.S., has re-stated his views first propounded by him in a monograph devoted to the subject. For the history of the rise and progress of the religion of the Lingayats, see Chapter VIII. The name Lingayat means "one with a Linga," the reference being to the portable Linga worn in a silver or a metallic casket, usually suspended by a string in the neck, in the form of a pendant, or tied on the upper arm, or on the head to the turban. The Linga thus worn is of stone and of the size of an acorn. Occasionally, the term Lingavanta is used as an alternative name for the castes professing the Lingayat religion. Veerasaiva is another popular name for them. This distinguishes them from

Adi-Saivas, the followers of the original Saivite cult, the Veerasaivas professing the Saivite religion as preached by Basava and his compatriots. Sivachar is still another name for them, and it is the one which appears to have been applied to them from early times. "Sivachar" erally means "following Saiva practice." It is known (See *Madras Epigraphy Report* for 1918) that among the earliest teachers of the Saiva cult were several who were known by the title of "Sivacharya." Whether this title was simplified or whether the term "Sivachar" is independent of this title is not definitely known. In this State, the Lingayat religion has been long professed by a variety of castes. Among those who have come under its influence at one time or another are the following:—

Kurubas.	Sanyasis.
Bilimaggas.	Kumbaras.
Telugu Banajigas.	Helavas.
Devangas.	Sadas.
Nayindas.	Handi Jogis.
Kunchigas.	Nagarthas.

In some of these castes, only sections of them profess the Lingayat religion. Lingayats take in marriage, in such cases, girls from the non-Lingayat sections, though they do so only after due admission of the girl into their religion. They do not, however, agree to give their girls in marriage to the non-Lingayats. Each caste, though professing the Lingayat religion, follows its usual caste customs and usages. But there are some notable exceptions. Among these are that, at Lingayat marriages, only a Jangama can officiate; similarly at the funerals. Then, again, the burying of the dead person among sections professing the Lingayat religion is usually in the sitting posture. No Sraddhas are observed and generally animal food and alcoholic liquors are abstained from. Marriage is, among the generality of the Lingayat sections, infant, and the bride-price that

prevails in the caste is paid. Likewise, the titles added to the names are those prevalent generally among the castes to which the different sections belong. All this is sufficient to show that the term Lingayat has more a religious than a caste significance. All Lingayats in the State are subject to the jurisdiction in matters religious to their Gurus, who preside over their mutts. The Mysore Census Report for 1911 gives a good account of these mutts from the pen of Rajasabhabhushana Diwan Bahadur Sir K. P. Puttanna Chetty, K.T., C.I.E.

Madiga (2,81,000).

Madiga.—The Chuckler caste corresponds to the Chakkiliyan of the Tamil country. The members of this caste call themselves Edagai as they form the last caste in the Left Hand group of castes, as the Holeyas, called the Balagai, form the last of the Right Hand groups. They also style themselves sometimes as Matangas, descendants of Matanga Rishi, and Jambava, one of the chief allies of Rama, the epic hero. The caste is most numerous in Tumkur, Bangalore, Kolar and Chitaldrug Districts. They are, by tradition, workers in leather, but hardly one in twenty of the actual workers follows the occupation now. About one-third are cultivators and four-ninths subsist by agricultural and other labour. A few are also village-servants and musicians. They speak Kannada, or Telugu according to the locality they live in. The Telugu and Kannada sections do not intermarry. They are each of them divided into three endogamous divisions of Tanige Buvvadavaru (or Tale Buvvamvandhulu) meaning the Eating Dish Division, the Hedige Buvvadavaru (or Gampa Buvvamvandhulu) signifying the Basket Division and the Mora Buvvadavaru, the Winnow section. The last of these is further divided into the single and double Winnows. These divisions are named after the manner in which the bride and the bridegroom eat the Buvva (food or the common marital meal), *i.e.*, as they keep it

in an eating dish, a basket, or a winnow. It is said, that the people of the last division, in some places, make a figure of the human body out of the cooked rice and other articles used for the marital meal, and that the bride and the bridegroom with some of the nearest male relations on either side eat up the same, the bride-groom and his party beginning to consume from the head and the bride and her party from the legs. From this practice, they take the name of Hena Buvvadavaru in Kannada, and Piniga Domati Vandhulu in Telugu, literally meaning those of the corpse division. There are besides two other divisions worthy of note. One of these is the Jambava and the other is the Dakkalu. The latter form the hereditary bondsmen (Halemakkalu) of the Madigas and are treated by them as outcastes. They have no fixed abode, but keep wandering from place to place living on the alms of the Madigas. The members of the Jambava section form the Gurus of the Madigas. They have exclusive Mathas for themselves such as those at Kodihalli, Hiriyur Taluk, and Nelamangala. They affix 'Muni' to their personal names, *e.g.*, Rudramuni, and wear a Linga and mark their foreheads with ashes and sandal paste. While on their periodical visits to their disciples, they lodge either in groves close to Madiga quarters or occupy a house specially vacated and cleaned for them. They consider Panchalas (Goldsmiths) as their special patrons and receive presents from them standing outside their houses whenever they visit villages inhabited by them. The Jambavas may marry girls from the ordinary Madiga families after subjecting them to some purificatory ceremony, but on no account give their girls in marriage to the other Madigas. The Jambavas in the State claim to be immigrants from the Cuddapah District. They speak Telugu and their women follow the *Kudipaita* custom, *i.e.*, wear the loose end of their garments from over the right shoulder, while the other

Madiga women let it fall on the left. The exact connection of Jambavas and Madigas generally to the Lingayat religion still remains to be cleared up. That they were influenced by the Lingayat religion is evident from the fact of the Jambavas, their *Gurus*, wearing the Linga. The Madigas also reverence Aralappa, said to be a contemporary of Basava, the originator of that religion, as their patron saint. Aralappa is specially honoured on marriage occasions. The various divisions have, besides, numerous exogamous septs named after animals, plants, trees and other inanimate objects. Several of these seem to be totems, they being venerated as such by the septs concerned. Infant marriage is held in high esteem, though there is no bar against adult marriage. The bride-price is Rs. 12. Polygamy is practised. Widow re-marriage is allowed. Divorce is easy. Dedication of girls as *Basavis* is common in the caste. Some families have the custom of dedicating the eldest daughter to this life, while in many cases a girl is so dedicated in pursuance of some vow taken at a time of illness or other distress. The dead are usually buried. Madigas freely admit members of all other castes except the Holeyas into their caste after the usual purificatory ceremony. In religion, they are worshippers of village deities such as Maramma, Morasamma and Matangamma, the caste goddesses. Temples dedicated to Maramma are to be found in almost every Madiga hamlet. They have priests of their own called *Tappattiga*, who is the Pujari in their temples. Once he is initiated a Pujari, he cannot carry on the caste occupation. Some Madigas profess the Vaishnavite religion and as such not infrequently turn Dasayyas or Dasas. They also thenceforward cease to exercise their customary vocation. All Vaishnava Madigas invite them to officiate at their feasts. The Machalas are the beggars attached to the caste. They are invited during marriages, at which they receive

certain prescribed fees. The Madigas are a caste well organized under Kattemanes, each with a Dodda Yejaman at its head. He is assisted by a Deputy, the Chikka Yejaman. Under him is the Kolkar, the beadle, who brings together all the castemen whenever necessary. The Madigas, both male and female, drink hard and eat most kinds of animal food excepting monkeys, snakes, etc. The usual caste titles are *Ayya*, *Appa* and *Gauda*.

Neygi.—This is the common occupational name of a number of castes engaged in silk and cotton handloom weaving. These are found all over the State, Bangalore District containing nearly one-fourth of the whole number. The following are the castes included in the name:— Neygi (63,400).

'*Bilimagga*,' literally "White-loom," engage in the weaving of white muslin and other cloths. They call themselves Kuruvina Setty or Kuruvina Banajiga. They speak Kannada. They are divided into those who are Lingayats and those who are not Lingayats. There is no intermarriage between these two sections. The caste is divided into 66 endogamous divisions divided into two groups respectively known as Siva and Parvati (or male and female), each group containing 33 *Gotras* with the usual prohibition against intermarriage between those bearing the same family name. Most of these so called *Gotras* are named after plants, animals, implements, etc., which they hold it is sinful to injure in any way. Marriage is usually infant. The bride-price is Rs. 25. Widow re-marriage is allowed. The dead are usually buried. The Lingayat section abstain from flesh and liquor. They also worship the village deities. They recognize the Lingayat *Mutt* at Humpi, Virupaksha, Ujjini, Balehalli and Chitaldrug. Sangameswara is their patron God. The loom they use is the simple old type one, well known in the State. The caste title is *Setti*.

Devanga.

Devanga.—The two main linguistic divisions are Kannada and Telugu, which do not intermarry. The Kannada section is sub-divided into (1) Sivachar Devangas, (2) Siryadavaru or those of Sira in Tumkur, (3) Hatagararu, and (4) Hadinentu Maneyavaru or those of the 18 families, who appear to be seceders from the main group owing to certain heterodox practices. The Hatagararu are either Lingayats or non-Lingayats. The origin of this sub-division is lost in obscurity. Both the Kannada and Telugu Divisions are further divided into numerous exogamous septs, each of which is named after an animal, plant, or other inanimate object. They have, besides, some eponymous *gotras* as well. Marriage may be infant or adult. The bride-price varies from Rs. 21 to Rs. 500. In some places, widow re-marriage is allowed while in some others, it is not. Divorce is not recognized. The dead are usually buried. Those who are Lingayats wear the usual Linga on their person. The majority worship Siva, but some in the Telugu section worship Vishnu. The caste Goddess is Chaudesvari, a form of Kali or Durga, in whose honour there is an annual festival in which the whole caste takes part at the temple, or at a house, or a grove specially prepared for the occasion. The usual caste title is *Setty*.

Khatri.

Khatri.—They are a caste of immigrants of silk-weavers. They eat in the houses of Patvegars. They are Saivites in religion. They speak a language which is a dialect of Marathi. Their usual caste title is *Sa*.

Patvegar.

Patvegar.—Another caste of immigrant silk-weavers. They are probably the people referred to under the name of *Patta Vayaka*, in the famous Mandasor Inscription of Kumara Gupta (A.D. 473). Mandasor is in South Guzerat and it is probable that the Patvegars hail from that part of Western India. They speak even now a language which

is a corrupt conglomerate of Guzerati and Hindi. The Khatris and Patvegars interdine though they do not intermarry. These two castes further resemble each other in many of their customs and manners. The Patvegars worship all the Hindu deities, especially *Sakti*.

Sale.—They apparently derive their name from Sanskrit *Salika*, a weaver. They are divided into Padmasale, Pattusale (silk-weavers) and Sankusale. The origin of these distinctions is not clear. They all claim descent from Markandeya Rishi. The Padmasales speak Telugu, while the two others speak Kannada. Pattusales profess the Lingayat religion. The Padmasales are Vaishnavites. All of them worship the caste deity Chaudeswari, usually located in groves. There is a tradition current in the caste, that they immigrated into the State in the days of Kempe Gowda from Vijayanagar, the capital of the kingdom of the same name now marked by the little village of Hampe, in Bellary District. Infant marriage is favoured. The bride-price is Rs. 25. Neither widow re-marriage nor divorce is permitted. The dead are usually burned, the Lingayat section burying in the sitting posture. Outsiders are not admitted into the caste. The usual caste titles are *Setti*, *Ayya*, *Appa*. Sale.

Sowrashtra.—This caste is also known as *Patnuli* and *Jamkhanwala*. According to tradition, they seem to be immigrants from Guzerat. They speak a language which contains much Guzerati in it. With silk, they manufacture a fabric called *Kutni*, which is a speciality of theirs. They also make superior sorts of woollen and cotton carpets and an imitation shawl of cotton and silk mixture, green in colour and called *Khes*. They favour early marriage and do not permit widows to re-marry. They profess Vaishnavism and have Sri Vaishnava Brahmans for their *Gurus*. Sowrashtra.

Seniga. *Seniga.*—These correspond to the Seniyans of the Tamil country. They are immigrants from the Karnatic and specialize in the manufacture of clothes for female wear of superior kind and high value. They all profess the Lingayat religon.

Togata. *Togata.*—These are a Telugu caste of weavers, chiefly of coarse cloth worn generally by the poorer classes. They are apparently immigrants from the Cuddapah District. They are Vaishnavites in religion and have either Sri Vaishnavas or Satanis for their priests. They also worship Chaudeswari as the caste Goddess.

Panchala (1,32,000). *Panchala.*—This is the collective name of the artizan caste of goldsmiths, blacksmiths, stone-cutters and carpenters. Each of these has a separate name as well. The names of the five in the order given are—Akkasale, Kammara, Kanchugara, Silpi and Badagi. These intermarry and interdine except occasionally in urban areas, where the goldsmiths prefer to hold aloof from the blacksmiths. They are found all over the State, though one-fourth of their number are found in the Mysore District and nearly half of the remainder in the Districts of Bangalore, Hassan and Shimoga. More than five-ninths of the number follow the traditional occupations. They profess to be a class of Brahmans, and as such claim descent from Visvakarma, the architect of the Gods. They have their own priests. They worship their caste Goddess, Kamakshi Amman. They are frequently referred to in Chola inscriptions of the 11th century A.D., in which it is stated that certain privileges such as permission to blow conches and beat drums at their weddings and funerals, to wear sandals, to plaster their houses, etc., were conferred on them by the then kings. The stone masons are therein referred to as

Silpachari, which shows that they had won some distinction in the art of sculpture by then. Marriage among all sections is usually infant; a bride-price is paid though it varies; the marriage of widows is not permitted and divorce is unknown. The usual caste title is *Achari* (Tamil *Asari*).

Uppara.—A caste of earth-salt workers found chiefly in the Mysore District. As the manufacture of earth-salt is prohibited in Mysore within five miles of the British frontier and as sea-salt is comparatively cheap, hardly a fifth of the workers in the caste follow the traditional occupation. The chief callings now followed are cultivation and labour. Many are brick-layers in towns, some are lime-kiln burners, and some others engage in tank repairs, etc. The last of these are sometimes known as *Keribande* Upparas. In Kolar, Bangalore and parts of Tumkur, they speak Telugu and in other parts of the State, Kannada. They correspond to the *Uppaligas* of the Tamil districts of the Madras Presidency. They occasionally call themselves, as of the "Sagara" or "Sakkarekula." Those who rise in the social scale call themselves as Banajigas. A section which has taken to the wearing of the sacred thread calls itself *Janivara Uppararu*. The caste has two linguistic divisions, Telugu and Kannada, which do not intermarry. Each of these is further sub-divided into numerous exogamous septs named after animals, plants, trees and other inanimate objects. They are referred to as totems by the septs concerned. Marriage is usually adult, though infants are often married in the towns. The bride-price varies from Rs. 12 to Rs. 30. Widow re-marriage and divorce are allowed. The dead are usually buried. Satanis usually officiate. Upparas are Vaishnavas by religion, their caste God being Channakesava. They also worship most of the village deities. Their usual caste titles are *Setti* and *Gauda*. Uppara (1,09,000).

Vodda (1,52,000).

Vodda.—A caste of earth-workers, well-sinkers, tank-diggers and stone dressers, chiefly found in the Kolar, Chitaldrug and Bangalore Districts. They derive their name from *Odra*, modern Orissa, which was their original abode. They are the *Oddes* of the Madras Presidency. They speak Telugu. They are so ignorant and dull of understanding that their name has come to signify in common parlance an uncommonly heavy looking, rude and uncivilized person. They are divided into the three endogamous divisions of (1) Kallu or (Uru or Bandi) Voddas, (2) Mannu (or Bailu or Desada) Voddas and (3) Uppu Voddas, The first are stone dressers and live in towns and villages; the second are earth-workers and are nomadic in their habits; and the third at one time engaged in carrying on trade, purchasing and vending salt on pack bullocks, but are now mostly sweepers in municipal towns. The caste is divided into numerous exogamous divisions of a totemistic kind. Marriage is usually adult. The bride-price varies from Rs. 7 to Rs. 15. Widow re-marriage and divorce are allowed. Dedication of girls as *Basavis* prevails in this caste. The dead are usually buried. Satanis officiate. Members of the higher castes are admitted into this caste after the usual purificatory ceremony. They worship the God on the Tirupati Hill and the various village deities. Some unusual customs are the following:—A man grows a beard until he is married and on marriage removes it; during the pregnancy of his wife, a Vodda will not breach a tank or carry a corpse; and when a pregnant woman works, she gets an extra share, the additional share being intended for her child in the womb. The usual caste titles are *Raju, Boyi* and *Gauda.*

Vokkaliga. (12,35,000).

Vokkaliga.—This is the general name given to the cultivating castes in Mysore. It is really made up of several distinct castes between whom intermarriage is prohibited.

They are found in all parts of the State, more especially in the Mysore, Bangalore, Hassan, Kolar and Tumkur Districts. They are to be found represented in all occupations, but the chief occupation is agriculture, nearly five-sixths of the actual workers in the caste following it as the principal means of livelihood. The name Vokkaliga has been derived from *Vokku* which means to thresh the grain out of ear stocks. Each of the component castes will be briefly considered below :—

Gangadikara.—These correspond to the Vellala of the Tamil and the Kunbi of the Mahratta countries. Numerically they are the strongest in the State. They are so called because they have been residents of Gangavadi, the country of the Gangas, a dynasty of Mysore kings, who are believed to have ruled over the central and southern parts of the State from early in the Christian era to the 8th century A.D. They are even now found mostly in the western and southern parts of the State, they being the only Vokkaligas found in the Mysore and Hassan Districts. They speak Kannada everywhere. Some members of the caste have received higher education and know English. The two chief endogamous divisions are Pettigeyavaru and Bujjanigeyavaru. The former derive their name from the custom of carrying their marriage articles in a bamboo box and the latter from the custom of carrying them in a covered basket. There is a third section known as Cheluru Gangadikaras, who are pure vegetarians and total abstainers. Gangadikaras in Bangalore and some parts of Mysore, have a number of exogamous septs which seem to be totemistic in origin, being named after animals, plants, trees and other inanimate objects, which are revered in many ways. Those in Hassan have none of these septs. Marriage may be infant or adult, though the former is considered more respectable and so favoured. The bride-price varies

from Rs. 20 to Rs. 30. Widow re-marriage and divorce are allowed. The dead are usually buried. Gangadikaras worship both Siva and Vishnu, as also the various village deities. *Bhaire Devaru* of Chunchangiri is the family God of many in the caste. Some practise the *Illatom* form of adoption. Their usual caste titles are *Ayya* and *Gauda*.

Morasu Vokkaligas.—Sometimes known also as *Hosa-devaru Vokkalu*. They are found in the eastern parts of the State and the adjoining British territory. According to tradition, they appear to be immigrants from Conjeeveram, which is apparently the Morasunad from whence they derived their name. Their first place of settlement was, it would appear, Kolar. The Palegars of Devanhalli, Dodballapur, Yelahanka, Magadi, Hoskote, Kolar, Anekal and Koratagere belonged to this caste. The famous Kempe Gowda, the founder of Bangalore City, was the most distinguished of the Palegars of Magadi. They speak both Telugu and Kannada, the former language being restricted to the two sections called *Reddi* and *Palyada Sime*. The chief endogamous divisions are *Reddi*, *Musuku*, *Palyada sime* and *Morasu* properly so called. The last of these is further sub-divided into three *Salus* (or lines) styled Kannu Salu, Nerlaghattada Salu, and Kuhera Salu. *Musuku* takes its name from the veil that is worn by the bride in this section at the time of the marriage. The *Palyada Sime* are so called because they are immigrants into Bangalore City and near about from Gummanayakana Palya in the Bagepalli Taluk. All these divisions are further sub-divided into many exogamous septs, which appear to be totemistic in origin. These are mostly named after animals, plants, trees and other inanimate objects which are revered in a variety of ways. *Illatom* adoption is common. Marriage is usually adult. The bride-price varies from Rs 6 to 12. Though widow marriage is not permitted, concubinage

is freely allowed. Divorce is allowed but the divorced wife cannot marry. The dead are usually buried. Satanis officiate among Vaishnavites and Jangamas among Lingayats. They worship Siva under the name of Bhaire Devaru. His chief seat is Seeti Betta, a hill in the Vemgal Hobli of Kolar Taluk, and there is also a temple in his honor at Gudemarlahalli, in the Chintamani Taluk. Bhaire Devaru is also known sometimes Bandi Devaru, from the fact that the caste brought the idol of this God in a Bandi (or cart) from their original seat. At Gudemarlahalli, there is to this day pointed out a round slopeless stone partially buried in the ground and a rude country cart is preserved near it. This is pointed out as the cart in which the image was brought. It was in favour of this God that the women of this caste amputated their ring and little fingers of the right hand before the piercing of the ears of their daughters prior to their betrothal. A rather quaint festival celebrated annually by the women of this caste is the *Hosadevaru*. No married woman is allowed to eat of the fruit of any harvest till she has performed this Puja for the year and after performing it, she is precluded from eating or drinking at the hands of those who have not similarly sanctified themselves. For this, it is essential that all the agnates connected with a family should join in the common worship, as otherwise they could not afterwards join in the performance of this or any other common celebration. To avoid this contingency, they generally manage, often at great personal inconvenience, to join in the festivities. This festival bears some resemblance to the Koththalu celebrated by the Hill tribes of Vizagapatam Agency Tracts. A detailed description of the festival will be found in the late Mr. Nanjundayya's account of Morasu Vokkaligas. Women of this caste tatoo themselves from the ages of 10 to 25 and blacken their teeth after the birth of a child. They are hardy and well

built and help men in their out-door work. The caste is a well-organized one. Each group has a Kattemane, over which is a Yejaman or a Gauda. Several Kattemanes, form a Nadu, at the head of which is a Nadu Gauda. Over several Nadu Gaudas is the Desayi Gauda or Bhumi Gauda. There are two Desayi Gaudas, one over the Telugu section and another over the Kannada section. The head-quarters of the latter are at Muduvadi in the Kolar Taluk. The usual caste titles are *Gauda* (Kannada section) and *Reddi* (Telugu section).

Nonaba Vokkaligas.—These are so-called because they are residents of the ancient Kingdom of Nozahambapadi or Nonambavadi. This was ruled over by the Pallavas up to the 10th century A.D. The Pallavas also called themselves as Nonambadhi Raja, Nonamba Pallava, Pallavadhi Raja, etc. This section of the Vokkaligas are Lingayats in religion. In most respects, they follow the same customs as the Gangadikara Vokkaligas. Their usual caste title is *Gauda*.

Hallikara Vokkaligas.—This is a section that is mainly engaged in the rearing of cattle. The breed of that name is the best in the far-famed Amrut Mahal Cattle.

Hal Vokkaligas.—These are most numerous in the Kadur and Hassan Districts.

Sadas.—These are cultivators found chiefly in the Shimoga and Chitaldrug Districts. They appear to have been originally Jains, though many at present profess the Lingayat and Brahmanic religions. The last of these worship both Siva and Vishnu, while the Jains worship the Jain Tirthankaras and Hindu Gods as well. Lingayats and Jains do not interdine or intermarry. All the rest do both. Among the non-Lingayats, are two divisions Huvvinavaru ("Those of flowers") and Hongeyavaru ("Those of the *Pongamia Glabra*"). Those of the latter do not burn *Pongamia Glabra* wood

or oil, though they use its leaves as manure. It should be added that these sections intermarry. The Lingayat Sadas have a large number of exogamous divisions, several of which bear the names of plants, and animals, but they do not appear to revere them in any manner. Totemism is apparently all but dead amongst them. The bride-price varies from Rs. 12 to Rs. 25. Non-Lingayat Sadas prohibit widow re-marriage though the Lingayat section allow it. The dead are usually buried, the Lingayats burying in the sitting posture. Sadas rank high in social status as they are strict vegetarians and total abstainers. They do not admit outsiders into their caste. They have the usual Kattemane form of caste organization. The usual caste title is *Gauda*.

Kunchigas.—These are found chiefly in Tumkur, Bangalore and Mysore. They are agriculturists by profession. A large number of them in Bangalore City are known as good and skilful carpenters, successful contractors and money-lenders. A good proportion of them are also educated and occupy a responsible place in society. They call themselves *Kunchitigas or Kunchati Vokkalu*. According to tradition current in the caste, they appear to be a section of immigrant Kurubas who have turned Vokkaligas by taking to agriculture. A section of them profess the Lingayat religion. They take non-Lingayat girls in marriage, but do not give their girls in marriage to non-Lingayats. Another section of the caste known as *Maroru* (or Vendors, usually of buffaloes) is found in the Malnād. Marriage may be infant or adult, though the former is thought more fashionable. The bride-price is Rs. 27. Widow re-marriage is not allowed but those who remarry form a different *Salu* or line by themselves. Divorce is allowed only in case of adultery. The dead are usually buried. Satanis officiate in the case of Vaishnavites. The Lingayets bury in the sitting posture. The usual caste title is *Gauda*.

BIBLIOGRAPHY.

R. BRUCE FOOTE.—Catalogue of Pre-historic Antiquities in the Madras Government Museum.
R. BRUCE FOOTE.—Indian Pre-historic and Proto-historic Antiquities, Vols. I and II.
MR. B. L. RICE.—Mysore Gazetteer, Vols. I and II.
SOMERSET PLAYNE.—Southern India.
MR. L. K. ANANTAKRISHNA IYER.—Cochin Tribes and Castes, Vols. I and II.
PROF. C. HADDON.—History of Anthropology.
Do. Races of Man.
EDGAR THURSTON.—Tribes and Castes of Southern India, Vols. I to VII.
SIR H. H. RISLEY.—People of India, edited by CROOKE.
DALTON.—Ethnology of Bengal.
SKEAT AND BLAGDEN.—Pagan Races of Malay Peninsula.
PROF. A. H. KEANE.—Ethnology.
W. T. BLANFORD.—Manual of Geology of India.
J. D. MAYNE.—Hindu Law and Usage, edited by SIR C. SANKARAN NAIR.
V. BALL.—Geology of India.
JESPERSON.—Progress in Language.
FERGUSSON.—History of Indian and Eastern Architecture, edited by J. BURGESS.
FLOWER AND LYDEKKAR.—Mammals Living and Existing.
DE QUATREFAGES.—Races Humanes.
WALLACE.—Island Life.
R. D. OLDHAM.—Manual of Geology of India.
PROF. HADDON.—Wanderings of People.
H. S. MAINE.—Ancient Law.
Do. Early Law and Custom.
Do. Early History of Institutions.
CALDWELL.—Comparative Grammar of Dravidian Languages, 2nd edition.
HENRICH ZIMMER.—Altindisches Leben Die Culture de Vedischen Aren.
IBBETSON.—Punjab Census Report for 1887.
ELPHINSTONE.—History of India.
Madras Manual of Administration.
MUIR.—Ancient Sanskrit Texts.
Sacred Books of the East, Vols. I to L.
SIR GEORGE CAMPBELL.—Ethnology of India.
R. SHAMA SASTRY.—Kautilya's Arthasastra.
R. CHANDA.—Indo-Aryan Races.
SIR H. C. LYALL.—Asiatic Studies, Vols. I and II.
Mysore Census Reports, for 1881, 1891, 1901, and 1911.
Madras Census Reports, 1891, 1901, and 1911.
SIR EDWARD GAIT.—Report on the Census of India for 1911.
LYDEKKAR.—Living Races of Mankind.
DENNIKER.—Races of Man.
PROFESSOR HADDON.—The Study of Man.
M. SREENIVAS IENGAR.—Tamil Studies.
DR. J. N. FARQUHAR.—Crown of Hinduism.
DR. HASTINGS.—Encyclopædia of Religion and Ethics.
SYDNEY HARTLAND.—Primitive Paternity.

B. A. BADEN POWELL.—Land Systems of India.
Do. Indian Village Community.
MACDONNEL AND KEITH.—Vedic Index of Names and Subjects.
RIPLEY.—Races of Europe.
MACDONNEL.—Sanskrit Literature.
ABBE DUBOIS.—Hindu Manners, Customs and Ceremonies, edited by H. K. BEAUCHAMP.
C. F. ANDREWS.—Renaissance to India—Its Missionary Aspect.

The *Encyclopædia Britannica* (XI edition), and various articles in the *Indian Antiquary*, *Royal Asiatic Society's Journal*, *Journal of the Asiatic Society of Bengal*, *Journal of the Asiatic Society, Bombay Branch*, *Madras Christian College Magazine*, *Folk-lore*, *Man*, *Anthropos*, *Quarterly Journal of the Mythic Society, Bangalore*; *Madras Review*, *Indian Review*, *Sanskrit Research*, etc., have also been referred to.

The following *Gazetteers* have also been consulted.— FRANCIS and HEMINGWAY'S *Madras District Gazetteers*, CAMPBELL'S *Bombay Gazetteer* and SIR A. C. LYALL'S *Berar Gazetteer*, the *Central Provinces Gazetteer*, and the *Indian Imperial Gazetteer*.

CHAPTER VII.

LANGUAGE.

Linguistic progress.

SINCE the last edition of this *Gazetteer*, our knowledge of the Dravidian languages has not been materially augmented. Though a new edition of Caldwell's well-known *Comparative Grammar of Dravidian Languages* has been issued, and there has been evinced a general interest in research work of every kind, linguistic research as such has received little or no attention, in Southern India. Valuable contributions to the history of literature of the four chief Dravidian languages have been made, but in these attempts at reconstruction of past periods of literary history, neither the scientific study of the languages themselves nor of their relation to interconnected dialects have found a place. The distinction between "language" and "dialect" has still to be grasped. The exact relation, for instance, between Tamil and its dialects, Telugu and its dialects, and Kannada and its dialects, remains yet to be made out. Except for the few scattered remarks of Epigraphists strewn broadcast in their remarks on the inscriptions they have edited and published in the extant volumes of the *Epigraphia Indica*, *Epigraphia Carnatica*, the *Indian Antiquary* and the like publications, these and other allied aspects of linguistic research remain yet to be worked out. Dr. Caldwell's *Comparative Grammar* is accordingly still the ruling authority on these and kindred topics.

Dravidian race and languages.

The Dravidians are a widespread race in India, north and south, but they do not all speak Dravidian languages. In the north, while they retain their ethnic characteristics, they have lost their original languages and have

adopted Aryanized tongues. Besides these, Dravidians are almost the only speakers of two other important families of speech, the Mūnda and the Dravidian proper. Owing to the fact that these languages are nearly all spoken by people possessing the same physical type, some scholars have suggested a connection between the two groups of speech. The detailed linguistic survey of India conducted by Dr. Grierson has shown that there is no foundation for such a theory. "Whether we consider the phonetic systems," writes Dr. Grierson, "the methods of inflexion, or the vocabularies, the Dravidians have no connection with the Mūnda languages. They differ in their pronunciation, in their modes of indicating gender, in their declensions of names, in their methods of indicating the relationship of a verb to its objects, in their numeral systems, in their principles of conjugation, in their methods of indicating the negative and in their vocabularies. The few points in which they agree are points which are common to many languages scattered all over the world." How a people ethnically one came to speak two distant families of languages is still a moot question. Dr. Grierson leaves the solution of this problem to the "Ethnologists."

Chief languages of the State.

The following five languages may be treated as the chief languages current in the State:—

	Number of speakers (1921)
A. Dravidian Group.—	
Kannada	4,257,098
Telugu	921,468
Tamil	262,222
B. Modern Indo-Aryan Vernaculars.—	
(*a*) Hindustāni (principal dialect of Western Hindi)	330,939
(*b*) Marāthi	78,336

Kannada is, as will be seen, the dominant language of the State, Mysore being, as it were, its parent land. Out of a total of about 11 million people speaking this language all over India—mainly in the south—nearly half of this number are to be found in this State. Kannada is spoken all over the State, except on the north-east, where it is displaced largely by Telugu. Kannada, is, however, the language of the administration and of instruction in all the schools of the State. Telugu is spoken by small numbers all over the State but by a majority in the Kolar District and to an appreciable extent in the Bangalore District. Tamil is spoken in the Civil and Military Station, Bangalore, and in the Kolar Gold Fields. Hindustani is the mother-tongue of the majority of the Muhammadans in the State. Small numbers of them speak Kannada and Telugu and the Labbais everywhere in the State speak Tamil, a scattered few here and there speaking Malayalam and Gujarāti. Marāthi is spoken mainly in the districts of Bangalore, Kolar and Shimoga, though small numbers of people speaking this language are to be found all over the State. The presence in the State of Mahrattas is answered by the Mahratta invasion of the country during the 17th century (see Vol. II of this *Gazetteer*). A peculiarity about their distribution is, about twenty-five per cent of them are to be found in the cities of the State.

Minor languages.

Of the minor languages spoken in the State, Lambāni, a tribal language connected with Sanskrit, is spoken by 47,952 people, chiefly in the districts of Shimoga, Kadur and Chitaldurg. The Lambānis are said to have originally come with the armies of the Mahrattas in their invasions of this part of the State in the 17th century. Tulu, a Dravidian language, is spoken by 35,192 people, mainly in the Hassan, Kadur and Shimoga Districts. Konkani, a dialect of Marāthi, is spoken by 11,999

people, in the Kadur and Shimoga Districts, adjoining the Madras District of South Kanara. The people who speak these two languages—Telugu and Konkani—are immigrants from South Kanara and are mostly coolies and day labourers on the coffee estates and gardens of the districts in which they are found. Malayalam is spoken by 5,818 people, mostly immigrant coolies, working in the Kolar Gold Fields, and in the Kadur and Shimoga Districts. Gujarāti (2,986 persons) and Mārwari (2,680 persons) are the languages of prosperous traders from the north, locally known as "Marwadis." They are chiefly confined to the cities in the State.

Kannada, the distinctive language of the State.

The distinctive language of Mysore is Kannada, the Karnataka of the Sanskrit pandits and the Canarese of European writers, the latter name as pointed out by the Editors of *Hobson-Jobson* being the Canarijs of the Portuguese. It is one of the family of the South Indian languages known as the Dravidian; but Karnataka seems to have been a generic term originally applied to both Kannada and Telugu, though now confined to the former. The South Indian languages may, therefore, be conveniently described as forming two branches of one family—the Northern or Karnataka, and the Southern or Dravida, the two being separated by the foot of the Ghat ranges, or a line running along their base from a little north of Mangalore on the Western Coast through Coimbatore to a little north of Madras on the East Coast. But if the expression Andhra-Dravida-Bhasha, the speech of the Andhras and Dravidas, used by Kumārila Bhatta of the 7th century A.D. to style the Dravidian languages, be taken to denote a difference of dialect, which is by no means certain, Kannada and Tamil, which are very closely related, would be included in the Dravida-Bhasha as against Telugu, the Andhra-Bhasha.

Karnataka—Derivation.

The derivation of Karnata and its quasi-adjectival form Karnataka, is uncertain. Dr. Gundert has proposed *Kar-Nādu*, "the black country," as the original form of Karnata, in allusion to the black cotton soil of the plateau of the Southern Dekhan. Trivikrama Bhatta, the author of *Nalachampu* (10th century) and his commentator appear to have been familiar with the Kannada language. While interpreting the word *Nashta charya*, the commentator gives *Kannamuchchale* (hide and seek) as its Kanarese equivalent. Again, while giving the meaning of 'Paribhasha,' he takes it to mean Karnata and other languages. Trivikrama Bhatta himself uses the word *Karnatacheti*, servant girl of the Karnata country, showing thereby his acquaintance with the Kannada people and their country. Other scholars have suggested that Karnata is derived from *Karu-Nādu*, "the elevated country," with reference to the height of the plateau above the sea-level. Kannada is supposed by the Indian Grammarians to be a *Tadbhava* formed from Karnata, though it is more likely that the latter is a Sanskritised form of the original Kannada. Sir Walter Elliot was inclined to connect *Karnata* with *Karna* or *Karni*, as in Satakarni, the family name of the early rulers before and after the Christian era, (see *Numismata Orientalia,—Coins of Southern India*, p. 21). The Rev. F. Kittel states that *Kan* means *blackness*. (See his *Dictionary*). In the *Mackenzie MSS.* the derivation of Karnātaka is given as Karna ātaka, "pleasing to the ears" of all men, and hence applied to "this honoured and renowned country." The same derivation also appears in the *Visvagunādarsa*, a work assigned to the 18th century. Mr. Rice wrote thus in the last edition of this *Gazetteer*:—"If a heterogeneous compound (*arisamāsa*) be permissible—of which there are many examples, and for which there are special rules in the language—Karnāta might, perhaps, be *Karna āta*, amusing or pleasing to the ear; the "sweet musical Canarese" of Colonel

Meadows Taylor. It is curious that *Kannada-Vakki*, or the Kannada bird, is a name of the parrot, which is also called *pandita-vakki*, or the learned bird. Mr. C. P. Brown, with his usual versatility, has striven to get a clue from the name of Canada, the British Dominion in North America, which, according to him, is a name unknown to the aborigines, and supposed to mean *ca-nada*, "we have nothing!" (*Carn. Chron.*, App. 84). But Webster puts it down as an American Indian word, meaning a collection of huts, a village, a town.

The name Karnata occurs as early as the 6th century in Varahamihira's *Brihatsamhita* and its mention in Somadēva's *Kathāsaritsāgara*, probably due to its being mentioned in his source, *viz.*, the *Paisachi Brihatkatha* of Gunadhya, carries it further back to the earliest centuries of the Christian era. It also occurs in the form *Kannadar* in the Tamil poem named *Silappadhikaram*, which is supposed to go back to the second or third century A.D. and in the form *Karunādagan* in the Vēlvikudi plates (*c.* 770) of the Pāndya king Parāntaka. The Sanskrit poet Rājasēkhara (*c.* 900) refers in his *Kāvyamimāmsa* to the mannerisms of the Karnatas in reading their books. In this form it occurs in Trivikramabhatta's *Nalachampu*, which cannot be later than the 10th century A.D., as it is quoted by Dhara in his *Sarasvati Kanthabharana*. Alberuni (*c.* 1030) uses Karnata as if a general term for the South. For, in describing the limits within which a Brahman might reside, he says:

"He is obliged to dwell between the river Sindh in the north and the river Charmanvati (the Chambal) in the south. He is not allowed to cross either of these frontiers so as to enter the country of the Turks or of the Karnata. Further, he must live between the ocean in the east and west."

According to Caldwell, the term Karnataka was at first a generic denomination of the plateau of the Southern Dekhan. He says:—

"Karnataka has now got into the hands of foreigners who have given it a new and entirely erroneous application. When the Muhammadans arrived in Southern India, they found that part of it with which they first became acquainted—the country above the Ghats, including Mysore and part of Telingana—called the Karnataka country. In course of time, by a misapplication of terms, they applied the same name, the Karnatak or Carnatic, to designate the country below the Ghats, as well as that which was above. The English have carried the misapplication a step further, and restricted the name to the country below the Ghats, which never had any right to it whatever. Hence the Mysore country, which is properly the Carnatic, is no longer called by that name by the English, and what is now geographically termed 'the Carnatic' is exclusively the country below the Ghats on the Coromandel Coast, including the whole of the Tamil country and the District of Nellore only in the Telugu country."

Region in which Kannada is spoken.

The region in which the Kannada language is spoken comprises the west of the Nizam's Dominions, parts of the Central Provinces and Berar, the southern Districts of the Bombay Presidency, the whole of Mysore and Coorg, and the Madras Districts bordering those countries on the north, west and south. In the *Linguistic Survey of India*, the region is defined thus:—

"Kanarese is the principal language of Mysore and the adjoining parts of Coimbatore, Salem, Anantapur and Bellary. The frontier line thence goes northwards through the Dominions of His Highness the Nizam as far as Bidar, where it turns almost due west on to about the 78th degree, and further southwards so as to include the south-eastern portion of Jat and Daphlapur. Kanarese is also spoken in the extreme south-east of Satara, in Taluka Tasgaon; to some extent in the Aundh State in the Satara Agency; and in the south of Belgaum, and further to the west, in Kolhapur in almost so

far west as the town of Kolhapur. The line thence turns southwards, following the Ghats to about Honawar where it goes down to the sea. In North Kanara, Kanarese is the official language all over the District. It is the principal language of South Kanara, with the exception of the southernmost corner. The frontier line thence coincides with the southern frontier of Mysore. Kanarese dialects are also spoken in the Nilgiris, and the language has, lastly, been brought by immigrants to Madura and to Central Provinces."

Dialects of Kannada.

The dialects of Kannada spoken in the south are :— Kodagu, Kudagu or Coorg in the principality of that name; Tulu or Tuluva in South Kanara; Toda or Tuda, Kota and Badaga, by the peoples bearing these names on the Nilgiris.

Number of people speaking Kannada.

The different people speaking Kannada and its dialects are estimated at over 11 millions, according to the Census of 1921.

Kannada including Badaga, etc.	10,374,000
Kodagu or Coorgi	40,000
Tulu	592,000
Total ...	11,006,000

The literary and the colloquial dialect.

The classical or literary dialect of Kannada is called Palagannada or Halagannada, that is, ancient or old Kannada, while the colloquial or modern dialect is called Posagannada or Hosagannada, that is, new Kannada. The former differs from the latter, not as classical Telugu and Malayalam differ from the colloquial dialects of those languages by containing a larger infusion of Sanskrit derivatives, but by the use of different inflexional terminations. In fact, the mongrel introduction of Sanskrit or *Sakkada* words in combination with Kannada words is strongly condemned by some of

the principal old writers who denounce the practice as the mark of an imperfect education. Nripatunga compares it to an unnatural union with an old woman; Nayasena to the mixing up of ghee and oil; and Nagavarma to the stringing of pearls along with pepper-corns. In those old inscriptions, moreover, which display the most literary skill, we find separate verses in Sanskrit and in Kannada interspersed with one another according to the opportunities afforded by the theme in such a way as greatly to heighten the general effect. But though the terms above given may serve to indicate the two main divisions of the language, the classical dialect had already passed through an earlier stage, which may be designated as Purvada Halagannada, the primitive or earlier old Kannada, which, Wilks tells us, was the language of Banavasi and, therefore, belongs to the beginning of the Christian era and the Andhra and Kadamba period. The oldest specimen of Kannada is, according to Dr. Hultzsch, contained in a Greek play preserved in a papyrus of the 2nd century A.D., found at Oxyrhincus in Egypt. Halagannada, as we know it, arose out of earlier old Kannada in about the 8th century, perhaps at the time when the Rashtrakutas gained the ascendancy over the Chalukyas. It was highly cultivated by a succession of gifted Jaina authors in the centuries following, which form the Augustan age of Kannada literature. A writer of the 12th century states that he has composed his work in the new Hosagannada. This, therefore, is the very earliest period to which the rise of the modern form of the language can be assigned, but its general adoption was a good deal later.

There are also certain other terms used in the works of some writers to describe the component elements of Kannada, which are not easy to identify. Thus mention is made of *Bel-Gannada* or white Kannada; *Tel-Gannada*

or clear Kannada; *Ol-Gannada* or local or home Kannada. But the name of universal application for pure Kannada is *Achcha-Gannada*, the well of Kannada undefiled, and all the terms are apparently efforts to express composition that was clear and perspicuous, as opposed to a certain obscurity which seems to have characterized the oldest forms of the language.

The written characters.

The written character which is common to Kannada and Telugu and which spread over the south and was carried even to Java, is derived from the Brahmi, the parent of all the modern alphabet of India. Some coins of the 4th century B.C. and the inscriptions containing the edicts of Asoka (3rd century B.C.) are the oldest Brahmi writings known to us. But their characters have already a long history behind them. As most of the Brahmi letters agree with the northern Semitic characters of the early part of the 9th century B.C., some scholars are of opinion that it is likely that Hindu traders, about 800 B.C., borrowed north-Semitic letters to write their own language, and that the Hindu scholars arranged and developed them into alphabetical systems suitable to express the requirements of the Sanskrit speech. The older types of the Brahmi may be assigned to the period lying approximately between 350 B.C. and 350 A.D.; a cognate character, the Dravidi of the Bhattiprolu inscription of the Krishna District, though actually of about 200 B.C., seems to be descended from a type that branched off from the Brahmi about the 5th century B.C. Kharoshthi, which is particularly the alphabet of the north-western India, is a variety of the Aramaic script which prevailed generally throughout Western Asia in the 5th century B.C. Originally, no doubt, it came from the same source as Brahmi, and like most other Semitic alphabets, it is written

from right to left. It disappeared from India in the 3rd century A.D. It may be added here that there are likewise some scholars who think that the Brahmi alphabet is a national invention of very great antiquity.

The Kannada alphabet as now arranged corresponds with the Sanskrit, but with some additional characteristic letters. Thus, among the vowels, while Sanskrit has only long *e* and long *o*, Kannada has both a short and a long form of each of these vowels: *ri*, *rī*, *lri*, *lrī* are not Kannada. Of the consonants, according to Nagavarma, the aspirated letters generally and two sibilants seem not to have belonged to the language originally, namely, *kha*, *gha*, *chha*, *jha*, *tha*, *dha*, *tha*, *dha*, *pha*, *bha*, *sa*, and *sha*. On the other hand, three consonants not in Sanskrit are pure Kannada, namely, *ḷa*, *ṟa* and *ḻa*. Of these, only the first, which corresponds with the Vedic *ḷa* is now in use. The other two are obsolete, though the *ṟa* is still used in Telugu.

The disappearance from Kannada literature, first of the *ḻa* (perhaps about the twelfth century) and subsequently of the *ṟa* (perhaps not till the seventeenth century), serves to some extent to mark definite periods, and is so far a guide in determining the date of manuscript works, especially, if in verse, as the requirements of the rhyme will show infallibly what was the original letter used, though it may have been changed in transcribing. Similarly there is what has been called the P and H periods, words now spelt with the latter having formerly appeared with the former, as *Posa*, *Hosa*; *Poysala*, *Hoysala*; etc. The different stages of the language exhibit a change or transition in the form of most of the letters of the alphabet, especially the pure Kannada ones; but these again cannot be assigned so exactly to fixed dates as to be sufficient by themselves for chronological purposes.

The relationship of the Dravidian languages to the other grand divisions of human speech is thus stated by Dr. Caldwell:—

The Dravidian languages; their relationship to other languages.

"The Dravidian languages occupy a position of their own, between the languages of the Indo-European family and those of the Turanian or Scythian group—not quite a midway position, but one considerably nearer the latter than the former. The particulars in which they accord with the Indo-European languages are numerous and remarkable, and some of them are of such a nature that it is impossible to suppose that they have been accidental; but the relationship to which they testify—in so far as they do testify to any real relationship—appears to me very indefinite as well as very remote. On the other hand, the particulars in which they seem to me to accord with most of the so-called Scythian languages are not only so numerous but are so distinctive and of so essential a nature that they appear to me to amount to what is called a family likeness and, therefore, naturally to suggest the idea of a common descent."

"The Scythian family to which on the whole the Dravidian languages may be regarded as most nearly allied is the Finnish or Ugrian, with some special affinities as it appears to the Ostiak branch of that family; and this supposition derives some confirmation from the fact brought to light by the Behistun tablets that the ancient Scythian race, by which the greater part of Central Asia was peopled prior to the irruption of the Medo-Persians, belonged not to the Turkish, or to the Mongolian, but to the Ugrian Stock."

On the other hand, the Indo-European relationship of the Dravidian languages has been advocated by Dr. Pope on the ground of "deep-seated and radical affinities between them and the Celtic Teutonic languages." But Dr. Caldwell observes in reply that "of all the members of the Indo-European family, the Celtic is that which appears to have most in common with the Scythian group, and especially with the languages of the Finnish family—languages which may possibly have been widely spoken in Europe previously to the arrival of the Celts."

Professor Max-Müller, who has placed Kannada among the Turanian languages, describes them as follows :--

"The most characteristic feature of the Turanian languages is what has been called agglutination or 'gluing together'. This means not only that, in their grammar, pronouns are glued to the verbs in order to form the conjugation, or prepositions to substantives in order to form declension;...but that in them the conjugation and declension can still be taken to pieces; and, although the terminations have by no means always retained their significative power as independent words, they are felt as modificatory syllables and as distinct from the roots to which they are appended. In the Aryan languages, the modifications of words comprised under declension and conjugation, were likewise originally expressed by agglutination. But the component parts began soon to coalesce so as to form one integral word, liable in its turn to phonetic corruption to such an extent that it became impossible after a time to decide which was the root and which the modificatory element. The difference between an Aryan and Turanian language is somewhat the same as between good and bad mosaic. The Aryan words seem made of one piece, the Turanian words clearly show the sutures and fissures where the small stones are cemented together."

Professor Whitney has the following remarks on the subject :—

"The Dravidian tongues have some peculiar phonetic elements, are richly polysyllabic, of general agglutinative structure, with prefixes only, and very soft and harmonious in their utterance; they are of a very high type of agglutination like the Finnish and Hungarian.....Excepting that they show no trace of the harmonic sequence of vowels, these languages are not in their structure so different from the Scythian that they might not belong to one family with them, if only sufficient correspondences of material were found between the two groups. And some have been ready, though on grounds not to be accepted as sufficient, to declare them related."

Sir George Grierson is, however, of the opinion that the name Scythian is very unsatisfactory and that the Dravidian family of languages is connected neither with the so-called Scythian family nor with the Indo-European family. He says:—

"The denomination Scythian is a very unhappy one. The Scythian words which have been handed down by Greek writers are distinctly Eranian, namely, they belong to the Indo-European family. But, nevertheless, the word has been used as a common designation of all those languages of Asia and Europe which do not belong to the Indo-European or Semitic families. Moreover, those languages cannot by any means be brought together into one linguistic family. The monosyllabic languages of China and neighbouring countries are just as different from the dialects spoken in the Caucasus or from the speech of the Finns and Magyars as is the Indo-European family. The points in which they agree are such features as recur in almost all languages and they are by no means sufficient to outweigh the great and fundamental characteristics in which they differ from each other. With regard to the Dravidian languages, the attempt to connect them with other linguistic families outside India is now generally recognized as a failure, and we must still consider them as an isolated family. The attempts made to show a closer connection with the Indo-European family have proved just as futile and one of the latest theories which compares the language of the Chins of Father India with the Dravidian family does not even appear to have attracted the notice of scholars."

The main characteristics of the Dravidian forms of speech are:—

The main characteristics of the Dravidian forms of speech.

"In the Dravidian languages, all nouns denoting inanimate substances and irrational beings are of the neuter gender. The distinction of male and female appears only in the pronoun of the third person, in adjectives formed by suffixing the pronominal terminations, and in the third person of the verb. In all other cases, the distinction of gender is marked by separate words signifying 'male' and 'female'. Dravidian

nouns are inflected, not by means of case terminations, but by means of suffixed postpositions and separable particles. Dravidian neuter nouns are rarely pluralized. Dravidian languages use postpositions instead of prepositions. Dravidian adjectives are incapable of declension. It is characteristic of these languages in contra-distinction to Indo-European, that, wherever practicable, they use as adjectives the relative participles of verbs, in preference to nouns of quality or adjectives properly so called. A peculiarity of the Dravidian dialects is the existence of two pronouns of the first person plural, one inclusive of the person addressed, the other exclusive. The Dravidian languages have no passive voice, this being expressed by verbs signifying 'to suffer,' etc. The Dravidian languages, unlike the Indo-European, prefer the use of continuative participles to conjunctions. The Dravidian verbal system possesses a negative as well as an affirmative voice. It is a marked peculiarity of the Dravidian languages that they make use of relative participial nouns instead of phrases introduced by relative pronouns. These participles are formed from the various participles of the verb by the addition of a formative suffix. Thus 'the person who came' is in Tamil literally "the who came".

Four classes of words.

The Indian grammarians, as is well known, deduce all the Indian languages from Sanskrit, through one or other of the Prakrits. Nagavarma, the earliest Kannada grammarian whose works have been discovered, assumes the existence in India of three and a half mother languages—Samskrita, Prakrita, Apabhramsa and Paisachika—and of fifty-six daughter languages sprung from them—Dravida, Andhra, Karnataka, etc. But Kannada, in common with the cognate languages of the south, recognizes four classes of words as in current use for literary purposes—*tatsama*, pure Sanskrit words; *tadbhava*, Sanskrit words changed to suit the language; *desya*, indigenous words; and *gramya*, provincialisms. To these, a later classification adds *anyadesya*, foreign words. Now, the *desya* class alone can be taken to

represent the pure language of the country, the real Kannada as distinguished from what has been imported from Sanskrit or other sources. And this view is borne out by the fact that *desya* words not only include all the terms expressive of primitive ideas and common names of things connected with the earlier stages of societies, but that they form the bulk of the language, and furnish the model on which terms introduced from other languages are framed. Imported expressions, therefore, though largely used—especially by Brahmans—for the purpose of imparting a scholarly elegance to their composition, are not essential to the culture of the language.

Early Kannada authors.

The first cultivators of the Kannada language for literary purposes were the Jainas, and down to the 12th century, we have, with very few exceptions, Jaina authors. For about three centuries after, we have along with them a few Brahman writers and a large number of Virasaiva authors; and from about the 15th century date numerous Brahmanical and Virasaiva works. There were, however, during these later periods, some compositions by the Jainas, but most of the literature of later times originated with the other sects. The leading characteristic of the Jaina earlier works is that they are *champu kavyas*, or poems in a variety of composite metres, interspersed with paragraphs in prose, though in works of a later period, the *sangatya* and *shatpadi* metres are largely used as in Brahmanical and Virasaiva works. The earlier works of Virasaivas are mostly in the form of *vachana* or poetical prose and occasionally in the *ragale* and *tripadi* metres. The most recent compositions are in the form of *yakshaganas* or rustic dramas interspersed with songs and some in prose only.

Ancient, Mediæval and Modern Kannada.

The *Ancient Kannada*, as Mr. Kittel says, is quite uniform, and shows an extraordinary amount of polish

and refinement. Its principal characteristics are the elaborate and highly artificial *champu* composition, strict adherence to the use of now more or less disused case and tense signs (that towards the end of the period were fixed in grammatical treatises) and to the rules of syntax,—perspicuity resulting therefrom,—the use of classical Sanskrit (also specifically Jaina) words in their unaltered form whenever desirable or necessary as an aid in composition and that of a conventionally received number of *tadbhavas* (Sanskrit words changed to suit the tongue of the Kannada people),- the proper distinction between the letters *ḷ*, *l* and *r*,—alliteration carefully based also on this distinction,—and lastly pleasing euphonic junction of letters. *Mediæval Kannada* began to appear as contained in the poetry of Saiva and Lingayat authors, It is, as a rule, written in any one of the *shatpadi* metres. is somewhat negligent as to the use of suffixes and the rules of syntax, and, therefore, occasionally ambiguous, uses a few new suffixes, contains a number of *tadbhavas* not sanctioned by previous authors, has entirely lost the letter *ḷ* (using *r* in its stead), and frequently changes the letter *p* of the present or future verbal suffix and an initial *p* into *h*. The transition to *Modern Kannada*, or the language of the present day, is seen especially in the poetry of the Vaishnavas. Several ancient verbs and nouns fell into disuse, the letter *r* began to be discarded at least so far as regards its proper position in alliteration, words borrowed from Marāthi and Hindustāni came into use, more frequent omission of suffixes took place, etc. The modern dialect comprises the present Kannada of prose writings and of common conversation. Of these, the first has two branches, one being tales, school-books and letters, and the other, business proceedings (especially those of Courts of Justice). The first branch differs from the second chiefly in so far as it is more exact in the use of inflexional terminations and

less abounding in Hindustāni and Marāthi. The language of ordinary conversation (excepting that of the educated classes) may be called a union of the two branches, that is, less particular in the choice of words, arbitrary about the use of suffixes, and at the same time full of vulgarisms. Many words of the modern dialect also are Sanskrit, especially such as are abstract, religious, or scientific terms. The ancient form of the present tense has been changed, most verbal suffixes have been somewhat altered, a few of the suffixes of nouns and pronouns have ceased to be used, many verbs, nouns and particles have become obsolete and other verbs and nouns (based on existing roots) have been formed. But in spite of this, of the introduction of much Hindustāni and Marāthi, of the lack of refinement, etc., the modern dialect is essentially one with the ancient and mediæval. It is, however, not uniform, as it more or less varies according to localities.

BIBLIOGRAPHY.

BÜHLER, G.—Indian Paleography.

BURNELL, A. C.—South Indian Paleography.

Do. Specimens of South Indian Dialects.

CALDWELL, REV. F.—Comparative Grammar of the Dravidian Languages.

CUST.—The Modern Languages of the East Indies.

ELLIOT, W.—Importance of Early Dravidian Literature, *Indian Antiquary* Volume XVI, 1887.

GRIERSON, G. A.—Linguistic Survey of India, Volume IV.

HODGSON, B. H.—Miscellaneous Essays relating to Indian Subjects, Volume II, 1880.

HULTZSCH, E.—J. R. A. S., 1904.

KITTEL, Rev. F.—A Grammar of Kannada Language.

Do. Introduction to Nagavarma's Chhandombudhi.

Do. Introduction to Kannada-English Dictionary.

Do. Old Kanarese Literature, *Indian Antiquary*, Vol. IV.

Do. Notes concerning the Numerals of the Ancient Dravidians, *Indian Antiquary*, Vol. II.

Do. Some Remarks on Dr. Pope's "Notes on the South India or Dravidian Family of Languages," *Indian Antiquary* Volume VIII.

Do. Notes on South Indian Comparative Philology, *India Evangelical Review*, Volume IV.

MAX-MÜLLER.—Science of Language.

NARASIMHACHARYA, R. and S. G.—Karnataka Kavi Charite, Volume I.

NARASIMHACHARYA, R.—Karnataka Kavi Charite, Volume II.

POPE, REV. G. U.—Notes on the South Indian or Dravidian Family of Languages: *Indian Antiquary*, Volumes V and VII

Do. On the Study of South Indian Vernaculars, J. R. A. S. (New Series), Volume XVII, 1885.

RICE, E. P.—Kanarese Literature, Heritage of India Series.

RICE, LEWIS.—Mysore Gazetteer (1897), Volume I.

Do. Mysore and Coorg from the Inscriptions.

Do. Introduction to Bhattakalanka's Karnataka Sabdanusasana.

Do. Early Kannada Authors, J. R. A. S. (New Series), Volume XV, 1883.

WEBB, REV. E.—Evidences of the Scythian Affinities of the Dravidian Languages, *Journal of the American Oriental Society*, Vol. VII.

WHITNEY.—Life and Growth of Language.

Imperial Gazetteer of India, Volume I.

Manual of the Administration of the Madras Presidency (1885-1886) Volume I.

CHAPTER VIII.

RELIGION.

I. General.

Pre-historic religion.

SCARCELY any evidence exists of the religion, if any, of Palæolithic man in the State.

Neolithic man.

Of Neolithic man, however, a nascent fetichism may, as in the other parts of the world, be predicated because of the objects found buried with his remains. These objects show that at this period men believed in a happy future life of eating and drinking, when children would need their playthings and men their weapons and customary implements. Pre-historic stone circles may be of religious significance, but as suggested by Professor Hopkins, "they may be without religious bearing." As has already been remarked (*vide* Chapter VI), no gap in time exists in Southern India between the Neolithic and Iron Ages, the people of the latter age being doubtless direct descendants of the former.

Iron age man.

How far the people of the Neolithic Age influenced the religion of their descendants of the Iron Age is not yet definitely ascertained. It is possible that the foundation of the religion of the people of the Iron Age should be sought for in that of those of the Neolithic Age. Perhaps, Iron Age people continued in the belief of a future life as they certainly continued the burial usages of their predecessors. For instance, the burial usages of most of the primitive tribes, including the Irulas, Sholagars, Todas and other castes and tribes, strongly resemble those of Neolithic man. Similarly, the sculptured cromlechs and other memorial stones we find set up throughout the

length and breadth of the State, in fact over the greater part of Southern India, are evidence of this perpetuation of the old belief. However, we cannot, unless we know the exact causes, be too sure in matters of this kind. It is best to avoid generalizations of a far-reaching character in this domain, as the necessary data for any definite deduction are lacking. A genuine pre-historic survey may enable us hereafter to understand more clearly the beliefs of primitive man in Southern India.

Pre-Dravidian religion.

The Pre-Dravidians, whom a large number of writers have identified with the jungle tribes and castes (*vide* Chapter VI), exhibit religious beliefs and tendencies which deserve some attention. How far they are indebted for these to their alleged ancestors, the people of Palæolithic times, it is altogether impossible to define. The Irulas, for instance, still construct stone circles; they also worship fetiches in the shape of water-worn stones under the shade of trees; and they revere also their totem animals. On the last of these, a word may be usefully added, the more so as totemism is common to most castes and tribes in the State. How far were the later Dravidian tribes indebted for this to the pre-Dravidians is not clear. It is possible from the wide prevalence of totemism that the tribes forming the Dravidian race had already developed totemistic beliefs before they came into contact with the pre-Dravidians. However that may be, it is inferable that the reverence the pre-Dravidians paid to their totem animals and plants was the result of that belief in spirit life common to most primitive races all the world over.

II. Animism.

Dravidian religion.

The Dravidians, if anything, perpetuated this belief in a spirit world in a more extended form. The vestiges

of totemism we still see among them lead us to infer that at one time it was widely prevalent among them. The difficulty, however, is to trace how far they were influenced in these and other beliefs and ideas by the pre-Dravidians. Can it be that they evolved these independently themselves? Might it not be that they partly developed them? These are questions that continually arise in the discussion of the development of Dravidian religion. Our knowledge in this respect is so meagre that it would be wrong to make any wholesale generalizations. In fact, Tiele was so impressed with the inadequacy of our knowledge of Dravidian religion that he purposely left out the Dravidians and a few others such as the Mundas and Sinhalese in his genealogical classification of religions. Since his time, no doubt, some progress has been achieved in investigation work, but we are hardly yet in a position to affiliate the Dravidian to any of the well-known families of religions. The same uncertainty that marks the Dravidian origins is to be found in regard to the sources from whence the Dravidian religion derived its root ideas. From wherever derived, the beginnings of Dravidian religion and its general character must be traced, as Dr. Caldwell has pointed out, to a belief in spirits and a fear of the evils which they inflict. With morality this religion has little or no connection, and its doctrine of immortality consists almost entirely in the representation that the earthly life is continued elsewhere, while of the doctrine that men will receive hereafter according to what they have done, only the first beginnings are to be traced in it. There is no priesthood attached to it and those who act as priests do not belong to any hereditary or exclusive class. At ordinary times the head of the family or sometimes that of the community officiates. This spirit worship is universal among the Dravidian tribes and castes in Southern India, though it must be added it is

most conspicuous in those parts, notably South Kanara and the adjoining areas of the Mysore State, Malabar, Tinnevelly and Travancore, where the Dravidian population has been least affected by extraneous influences. The spirits worshipped are many and various and usually take the form of goddesses, who are worshipped as "Mothers." Among the most favourite Goddesses of Mysore are the following:—Māriamma (or Māramma) often styled simply Amma, or in the honorific plural Ammanavaru, the Goddess of small-pox; Uramma; Durgamma; Sunkālamma; Mahēswaramma; Pujamma; Annamma; Uddālamma; Kokkalamma; Sukhājamma; Yellamma; Gangamma; Māstamma; Manigamma; Hindamma; Hosakere Amma; Halasamma; Mutyālamma; Patālamma; Masinamma; Hunasamma; Kālamma; Māthangamma; Maddūramma; Chandamma; Kariyamma; Sidabamma; Akkamma; Mallamma; Huliamma, etc. Every village in the State has its own goddess. According to some, goddesses are characteristic of a race of agriculturists and the Dravidians being agriculturists, worshipped only the "Mother." Others have suggested that this form of worship is indicative of the old maternal filiation which at one time prevailed more extensively in Southern India than now. We have already referred to this subject at some length (*vide* Chapter VI) and it should suffice here to state that Divine motherhood, like the kinship of men and gods in general, was to the Dravidian as to the old heathen Semite, a physical fact and the development of the corresponding cults and myths laid more stress on the physical than on the ethical side of maternity, and gave prominence to sexual ideas which were never edifying and often repulsive. Especially was this the case when the change in the law of kinship deprived the mother of her old pre-eminence in the family and transferred to the father the greater part of her authority and dignity.

Spirit worship: Grāma-devatas.

This apart, spirit worship has with the Dravidian principally taken a double form. On the one hand, he believes that each village is surrounded by evil spirits who are always on the watch to inflict diseases and misfortunes of all kinds on the unhappy villagers; they lurk everywhere, on the tops of palmyra trees, in caves and rocks, in ravines and chasms; they fly about in the air, like birds of prey, ready to pounce on any unprotected victim. On the other hand, there are the village deities, whose function it is to ward off these evil spirits and protect the village from epidemics of cholera, small-pox or fever, from cattle disease, failure of crops, childlessness, fires, and all the manifold ills that flesh is heir to in the villages. But these village deities themselves are beings of most uncertain temper, very apt to fly into a rage and inflict the very ills it is their business to ward off. So, the villager spends his life in constant terror of his unseen enemies and friends alike. "The sole object of the worship of these village deities is," says Bishop Whitehead, who has devoted special attention to their study, "to propitiate them and avert their wrath. There is no idea of praise and thanksgiving, no expression of gratitude or love, no desire for any spiritual or moral blessings. The one object is to get rid of cholera, small-pox, cattle disease or drought or avert some of the minor evils of life. The worship, therefore, in most of the villages, only takes place occasionally. Sometimes there are daily offerings.....but the general attitude of the villager towards his village deity is 'Let sleeping dogs lie.' So long as everything goes on well it seems safest to let her alone. But when misfortune comes, it is a sign that she is out of temper, and it is time to take steps to appease her wrath." While the evil spirits are conceived to be everywhere, each village deity who is believed to combat their malevolent influences is a local divinity distinct

from every other and with the name of mother or a special name of her own; she has a holy place where she lives; and she is represented by an image, a shapeless stone or some other symbol. The last of these is often nothing more than a mere post or a pot of water. In some places, she has a shrine built for her, but it is no pretentious structure. More often she is invoked when her presence is needed in a temporary hut or a pendal specially put up for the occasion, as during the prevalence of an epidemic. People pay their respects at the proper times to both sets of divinities, though the worship of evil spirits as such is restricted to special occasions. Annual feasts are held in connection with the village deities and at these, the sacrifice of animals is a prominent item. Sacrifice, indeed, is considered the most fundamental doctrine of this cult, the "mother" being satisfied with nothing less than a living animal. The ceremonies in connection with their feasts generally extend over several days, on the last of which the animal is sacrificed, *i.e.*, buffaloes, sheep, goats and pigs being the animals usually offered. The details vary greatly and are not infrequently of a somewhat revolting character. One of the celebrants will carry the entrails of the victim in his mouth and round his neck. Another will drink the blood from the severed neck till he has drained the carcass. The proceedings often close with the transportation of the image of the goddess in what is called a car to the confines of the next village, there to be dealt with in a similar manner.

A typical Grāmadevata festival.

A typical festival of one of these goddesses, that of Maheswaramma of Bangalore, is thus described by Bishop Whitehead:—

"An annual festival is held in this village after harvest. A special clay image is made by the goldsmith from the mud of the village tank, and a canopy is erected in a spot where

four lanes meet and decorated with tinsel and flowers. The goldsmith takes the image from his house, and deposits it beneath the canopy. The festival lasts three days. On the first day, the proceedings begin at about 2 P.M., the washerman acting as a Pujari. He is given about two seers of rice, which he boils, and at about 5 P.M., brings and spreads before the image. Then he pours curds and turmeric over the image, probably to avert the evil eye, and prostrates himself. The villagers next bring rice, fruits and flowers, incense and camphor, and small lamps made of paste of rice flour, with oil and lighted wick inside, called *arati* and very commonly used in the Canarese country. One *arati* is waved by the head of each household before the clay image, another before the shrine of Maheswaramma, another before a shrine of Muneswara about two furlongs off, and a fourth at home to his own household deity. During these ceremonies music is played, and tom-toms are sounded without ceasing. After this ceremony, any Sudras, who have made vows, kill sheep and fowls in their own homes and then feast on them while the women pierce their cheeks with silver pins, and go to worship at the shrine of Maheswaramma. At about 9 P.M., the Madigas, who are esteemed the left hand section of the outcastes, come and sacrifice a male buffalo called *Devara Kona*, *i.e.*, consecrated buffalo, which has been bought by subscription and left to roam free about the village under the charge of the Toti, or village watchman. On the day of the sacrifice, it is brought before the image, and the Toti cuts off its head with the sacrificial chopper. The right foreleg is also cut off and put crosswise in the mouth, and the head is then put before the image with an earthen lamp alight on the top of it. The blood is cleaned up by the sweepers at once to allow the other villagers to approach the spot; but the head remains there facing the image till the festival is over. The Madigas take away the carcass and hold a feast in the quarter of their village. On the second day, there are no public offerings but each household makes a feast and feeds as many people as it can. On the third day, there is first a procession of the image of Maheswaramma seated on her wooden horse, and that of Muneswara from the neighbouring shrine round the village. They stop at each house, and the people offer fruits and flowers but no animals. At about 5 P.M., the washerman

takes up the clay image of the Grāmadevata, goes with it in procession to the tank accompanied by all the people to the sound of pipes and tom-toms, walks into the tank about knee deep and there deposits the image and leaves it."

It is remarkable that only goddesses are fond of these animal sacrifices. Almost the only male deity in whose honour buffaloes are sacrificed in the State is Hiriyanna, one of those specially worshipped by the Agasas. We may here note the offering of the buffaloes as a sacrifice to Māra in Manjarabad. Mr. Elliot describes the ceremony followed there:--

"A three or four years old (Male) buffalo is brought before the temple of Mara, after which its hoofs are washed and unboiled rice thrown over its head, the whole village repeating the words *Mara Kona*, or in other words, buffalo devoted to Mara. It is then let loose and allowed to roam about for a year, during which time it is at liberty to eat of any crops without fear of molestation, as an idea prevails that to interfere with the buffalo in any way would be sure to bring down the wrath of Mara. At the end of that time, it is killed at the feast held annually in honour, or rather to divert the wrath, of Mara."

Origin of Grāmadevatas.

Discussing the origin of those village deities, Bishop Whitehead remarks that the system is "as a whole redolent of the soil and evidently belongs to a pastoral and agricultural community." He attributes to it a totemistic origin which he develops at length in his book on the *Village Gods of South India*. His argument is rather difficult to summarize, but the main idea underlying it is a desire to seek communion with a supernatural power. He traces the essential belief involved in it "to that particular form of animism, which is known as Totemism." As a person not belonging to a clan became a member of it by being made a partaker of its blood, so when the human clan desired to strengthen its position

with one or another of the many animal clans that surrounded and impressed itself upon its imagination as animated by supernatural power, the animal clan became the totem of the human clan. The spirit that was supposed to animate the totem clan became, in a certain sense, an object of worship. One great purpose of the worship then was, says Bishop Whitehead, "to cement and strengthen the alliance between the human clan and the animal clan, and the way in which this was done was through some application of the blood of the totem, or by, in some way, coming into contact with that which was specially connected with its life, or by partaking of its flesh. The object then of killing a member of the totem tribe becomes clear. Under ordinary circumstances it would be absolutely forbidden and regarded as the murder of a kinsman; but on special occasions, it was solemnly done in order to shed the blood and partake of the flesh, and so strengthen the alliance. The blood is regarded as the life, and when the blood of a member of the totem tribe of animals was shed, the life of the totem was brought to the spot where it was needed, and the blood could be applied to the worshippers as a bond of union, and then the union could then be still further cemented by the feast upon the flesh by which the spirit of the totem was absorbed and assimilated by its human kinsman. The object of the animal sacrifice, therefore, was not in any sense to offer a gift but to obtain communion with the totem spirit. Now, if we apply this theory of sacrifice to the sacrifices offered to the village deities in South India, we see that the main ceremonies connected with them at once become intelligible; the various modes of sprinkling and applying the blood and the different forms of sacrificial feast were all originally intended to promote communion with the spirit that was worshipped. In the same way, even such a ceremony as the wearing of the entrails round the neck

and putting the liver in the mouth acquires an intelligible meaning and purpose. The liver and entrails are naturally connected with the life of the animal and the motive of this repulsive ceremony would seem to be an intense desire to obtain as close a communion as possible with the object of worship by wearing those parts of its body that are specially connected with its life. "So too, this theory explains," adds Bishop Whitehead, "why the animal sacrificed is so often treated as an object of worship" In the case of buffalo sacrifices, the buffalo is paraded through the village decked with the garlands and smeared with turmeric and *kunkuma* and then, as it passes by the houses, people come out and pour water on its feet and worship it. But why should this be done if the animal sacrificed is regarded as only a gift to the goddess? When, however, we realize that the animal sacrificed was not originally regarded as a gift, but as a member of the totem tribe and the representative of the spirit to be worshipped, the whole ceremony becomes full of meaning.

Other features.

Hookswinging (or *sidi*) has practically gone out of use. At one time, it was common in the State in connection with the festivals of certain goddesses. Fire-walking is still popular. Another kind of self-torture practised is the passing of a wire of silver or some other metal through the two jaws between the flesh. The bridled mouth cannot be opened without acute pain. Abbé Dubois gives many instances of this kind of torture prevalent during his time in the State. These are even now by no means rare. Ancestor worship is found among the generality of Dravidian castes and tribes. The underlying idea seems to be that if the soul of the departed is not, at certain fixed times, properly attended to, it will do harm. *Bhūta* worship is in great favour in the long range of hills which bound the State on the

west. Each family has its own *bhūta*, to which it offers daily prayers and sacrifices in order that it may preserve its members from the ills which the *bhūtas* or their enemies might bring upon them. All these *bhūtas* delight in sacrifices of blood. Every caste or tribe worships its own particular caste or tribe *fetish*, the potter his wheel, the fisherman his net, the farmer his plough and so on. Tattooing, so far as it is now practised in the State, does not possess any religious significance. It is nowhere known to be in honour of a god or goddess. But that it did possess some religious or social meaning may, perhaps, be inferred from the facts that it is still ordinarily restricted to girls and that the first tattooing is followed by a ceremonial dinner. Serpent worship is general throughout the State. With it has been associated for long tree worship. The serpent stones worshipped are erected usually under certain trees which are most frequently built round with a raised platform. One is usually a sacred fig which represents a female, and another a margosa which represents a male; and those two are married with the same ceremonies as human beings. The *bilpatre* (*agle marmelos*), sacred to Siva, is often planted with them. Particular trees or plants are held sacred by themselves, such as the *Asvaththa* or the pipal, the *nīm* or margosa, the *tulasi* (*ocymum sanctum*), the *ekke* (*aristolochia indica*), etc. The general object of trees and serpent worship seems to be for the purpose of obtaining offspring. Animism is the name given to cover all this medley of superstitions which prevail among primitive tribes in all parts of the world. The tribes are very vague in their religious ideas, but they all agree in the presence on the earth of a shadowy crowd of powerful and malevolent beings who usually have a local habitation in a hill, a stream or patch of primeval forest and who interest themselves in the affairs of men. Illness and misfortunes of all kinds are

attributed to them. Wizards are employed to placate the offending ghostly being by a suitable sacrifice. Their services are requisitioned when good crops are required, to cause injury to an enemy or to ascertain the omens relating to some proposed course of action. These features of animism are universal and in this State seem to be coupled with belief in a supreme God. It is this which makes it impossible to say when a man has ceased to be an Animist and has become a Hindu. Hinduism and Animism are not by any means mutually exclusive.

III. Vedic Hinduism.

Vedic Hinduism.

The religion of the Āryans, who came to live amidst these people, was of a different nature. To these Āryans, Southern India appears to have been known from fairly early times. Sporadic settlers might have crossed the traditional Āryan boundaries and come down south before the events related in the Rāmāyana took place. There is ground for believing that, by the time the Aitarēya Brāhmana was composed, Southern India was already well known to the Āryans. During the Sūtra period (1000 B.C. to 250 B.C.), Southern India had undoubtedly been colonized by the Āryans in large numbers. The writings of Baudhāyana, who has been assigned to the 6th century B.C., make possible not only this but also that there were semi-Āryanized kingdoms in the south. There were in it even different schools of law and learning. Baudhāyana himself was probably a Southerner and although he expresses high regard for Āryavarta, or the Gangetic Valley, yet he takes great care to mention peculiar South Indian customs and laws, such as eating in the company of uninitiated persons and of one's wife, the use of stale food, and marrying the daughter of a maternal uncle or a paternal aunt. Dr. Bühler is of opinion that Āpastamba lived, taught and

founded his school of Sūtra in the Āndhra country between the Godavari and the Kristna. By linguistic arguments, he shows that Āpastamba cannot have written later than the 3rd century B.C. and adduces grounds for assigning to him a date as early as the 5th century B.C.

Brahman immigration into Mysore.

The actual introduction of Brāhmans into Mysore is assigned to the 3rd century A.D. According to tradition, the Kadamba king Mukkanna or Trinētra at that time settled them at Sthānagundūr (Talgunda in the Shikarpur Taluk, Shimoga District). Some inscriptions found in the State give a highly realistic account of this introduction of Brāhmans. Having sought diligently, we are told in one of them, throughout the regions and finding none, he went without delay into the north, and from the Ahichchatra Agrahāra (said to be in the Bareilly District) produced a number of Brāhman families, whom he settled in the Agrahāra of Sthānagundūr. This was in the west. In the east, the Pallava King Mukkanti is said to have introduced Brāhmans at about the same period. In the south, the Ganga King Vishnu Gopa, belonging to the same century, is said to have become devoted to the worship of Brāhmans, and to have thus lost the Jain tokens which were heirlooms of his house. In Mr. Rice's opinion, the evidence of inscriptions is in favour of an earlier existence of Brāhmanism in this country. The Malvalli inscriptions of the 2nd century, discovered by him, show the king Satakarni making a grant to a Brāhman for a Siva temple followed by a Kadamba king also making a grant to a Brāhman for the same. Moreover, the remarkable Talgunda inscription, also discovered by him, represents the Kadambas themselves as very devout Brāhmans, and one of them, perhaps the founder of the royal line, as going with his *Brāhman* Guru to the Pallava capital (*Kānchi*) to study

there. It also states that Satakarni, probably the one above mentioned, was among the famous kings who had worshipped at the Siva temple to which it belongs. It has, therefore, to be presumed that Brāhmanism, more particularly the worship of Siva in the form of the Linga, existed in Mysore in the first centuries of the Christian era, concurrently with other forms of faith, Buddhism and Jainism, but that the latter were in the ascendant. The traditions, perhaps, indicate, as Mr. Rice suggests, the time when Brāhmanism received general public recognition by the State.

Development of Vedic Hinduism.

It is not deemed necessary here to go into the gradual development which Vēdic religion underwent as the people professing it extended their sway from the north-west part of India to the south. Many standard text-books dealing with the history of religions devote much space to this phase of Hindu religious development, the latest being Professor Hopkins' *History of Religions*. The interested reader will find in this work authoritatively set forth all that is known on this subject. Unlike the Dravidian religion, the Āryan religion looked rather above than under the earth and cared more for gods than for ghosts. About the time the Brāhmans began to settle in the State, the religion they first professed had undergone change. It was affected as much by environment as by internal development. Still "the masses continued to worship" as Professor Hopkins points out, "all the religious phenomena of their inherited faith, physical objects, ghosts, and gods above, with a sectarian growth leading to the Siva and Vishnu cults. The hypostasis of Brahma was retained as Brahma the Creator. The masses kept, too, the hope of a happy hereafter in a joyous, material heaven. Song, dance, mimetic exhibitions, not too nice, accompanied religious festivals. In short, as is sometimes forgotten, the

common people remained frankly Vēdic in their beliefs, fears and hopes undisturbed by the disquisitions of the mystics. Most of the population were now not Āryan at all; but also who could call themselves so and invented pedigrees which Aryanized them. At the same time, they clung to their old native gods; so these gods were Brāhmanized too and called "forms" of this or that great recognized God, a process still going on in India, where every wild-tribe devil is converted by the Brāhman priests and becomes a form of Shiva or Vishnu. On this unending under-current of the popular religion with its cult of spirits, ghosts and godlings, its spring festivals, its maintenance of the old domestic rites, its attention to the dark, the productive, the mysterious, much may be written but space forbids.

Light from Mysore Inscriptions.

The inscriptions found in the State throw a side-light on the religious development of its peoples. Mr. Rice, who has devoted some space to this topic in his "*Mysore and Coorg from the Inscriptions*," writes that the earliest form of Brāhman faith in the State was connected with the worship of Siva, who was, it is asserted in one inscription, door-keeper to the Mahāvalis of Bānas. Vishnu in his Vāmana or Dwarf incarnation, deprived Mahābali in two strides of all his possessions except Pātāla, which was left to him. Krishna, who is another form of Vishnu, also found means, it is said, in a war against Bāna, to overcome Siva, who fought for the Bānas. It is difficult to separate the worship of Siva and Vishnu in subsequent periods. They continued to be jointly recognized in all parts and the united form Harihara, composed of Hari (Vishnu) and Hara (Siva), was a symbol of their general equality in religious estimation. Of Harihara, one inscription says, "The celebrated Siva acquired the form of Vishnu and Vishnu acquired the great and famous form of Siva, in order that the

saying of the Veda (that they were one) might be fully established." Kēsava or Vishnu, again, is identified as follows in the fourteenth century with the chief object of worship in all the sects :—"He whom the Saivas worship as Siva, the Vēdāntis as Brahma, the Buddhas as Buddha, the Nyāyakas as Kartha, the Jainas as Arha, the Mīmāmsakas as Karma." The worship of Siva was from an early period specially associated with an ancient teacher named Lakulīsa, who apparently can be traced back as far as the first century A.D. His name frequently occurs in Mysore inscriptions and his creed and sect are referred to as the Lakulāgama, Lakulāmnaya, Lakulasamaya, etc. But Mr. Rice adduces reasons to show that there must have been a succession of Gurus of the name. Lakulīsvara, the founder of the Pāsupata sect, belonged to the Lāta country, and has been assigned by Dr. Bühler to the 11th century A.D. The Lakula of the Mysore inscriptions belongs to the period between 1054 and 1156 A.D., and is generally mentioned in connection with the Kālāmukha sect, who are not unknown to other parts of Southern India as well.

IV. Jainism.

Jainism.

Of the warring sects that came into being in the 6th century B.C., two attained to lasting prominence and extended their influence to Mysore at a very early period. These are Jainism and Buddhism. Both of these are connected with Mysore by the closest of ties. Jainism was the older of the two. Though an ancient sect and professed at one time by many kings and large sections of people, its existence was brought to light in Mysore by Colonel Colin Mackenzie of MSS fame, who conducted the Mysore Survey in 1799 and the following years. The Jains are dispersed throughout India and their numbers are probably understated at less than a million

and a quarter according to the Census of 1911. They are most numerous in Rajaputana, Guzerat, Centarl India and Mysore. In the north and west of India, they are chiefly engaged in commerce; in the south, they are also agriculturists. At one time, they were more or less predominant in Mysore from the earliest part of the Christian era to the 12th century. In Southern India generally, they were established from a very early period. The oldest Tamil and Kannada literature is of Jain authorship and to the Jains is due the first cultivation of these languages. The name "Jain" comes from *Jina*, conqueror, a title bestowed upon triumphant leaders of sects, who had conquered all controversial opponents and also conquered for themselves whatever bliss true religion may win. In this case, the conquering Jina was Vardhamana or Mahāvīra (d. 484 B.C.) pupil of a certain Pārsvanātha. This Mahāvīra either magnified his teacher's order or instituted one of his own, whose members called themselves Nīrgranthas (emancipated). They did not believe in the authority of the Vedas nor in the existence of God but adopted a dualistic philosophy. Certain illuminated human beings of the past became their objects of adoration. These were called Tīrthankaras, whose images to-day adorn the Jain temples. They taught also that animals should not be injured and are still famous for the care they take not to injure life. Salvation, they believe, depends on faith in their founder as a saviour, through his teaching how men may become emancipated, on a right understanding of his doctrines and on right living. The soul must cease from restless activity; a man may even starve to death with this end in view. In thus calmed in life, it afterwards enters an existence of peace, bodiless and immortal. This sect, despite its heresy, has existed for twenty-four centuries, because from the beginning it has clung to rites and ceremonies. It practically worships the great Jina and his predecessors,

for, like the Buddhists, the Jains believe there were many Jinas. It was always a formal sect and one of Mahāvīra's disciples called Gosala found a dissenting subject which afterwards (*circa* 300 B.C.) was called the Digambara or naked, a section opposed to Swētambara or slightly clothed. Originally, however, Gosala representing the Ajivika sect (referred to in the inscriptions of Asoka) was a "livelihood" man or professional beggar, whose life was morally objectionable; but he defended it on the score of determinism, disclaiming freedom of will and moral responsibility, views offensive to Mahāvīra, although he also was a naked ascetic. The Jain Church in general allowed its lay brothers to build nunneries and monasteries, whose numbers constituted the bulk of the faithful. The Jains of to-day, as Professor Hopkins says, are a pleasing sect, who make an excellent impression owing to the absence of idols and of grosser superstitions in their religion and to their placid and gentle demeanour.

Jain immigration into Mysore.

According to unvarying Jain tradition and writings, Jainism was introduced into Mysore by Bhadra Bāhu, the last of the Srutakēvalis, and his disciple Chandragupta, the great Maurya Emperor, who both led a colony of Jain emigrants from the north to the south to escape the horrors of a twelve years' famine. Chandragupta, as we know, reigned from 321 to 297 B.C. There is much in literature and lithic inscriptions of a later period to confirm this tradition. Mr. Rice, who has written at length on the subject, adduces many reasons to show that the tradition is not unworthy of credence. Sir Vincent Smith, who at one time thought that the story was somewhat unbelievable, gave it as his considered opinion recently that it "has a solid foundation in fact." According to this story, Chandragupta survived his teacher twelve years and died an ascetic at the age of sixty-two years, on the Chandragiri Hill at Sravana

Belgola. Further details about this immigration of Jains into Mysore will be found in Vol. II, Chapter III of this work.

Their chief Mutts and Gurus.

The principal seats of the Jain faith in Mysore now are at Sravana Belgola in Hassan District, Maleyūr in Mysore District. and Humcha in Shimoga District. The first place is the residence of a Guru who claims authority over the Jains throughout the south of India. He professes to be a *guru* to all the Jaina Kshatriyas in India; and in an inscription dating so late as 1830, claims to be occupant of the throne of Dilli (Delhi), Hēmādri (Maleyūr), Sudha (Sōde in Northern Kanara), Sangītapura (Hāduvalli), Svēdapura (Bilige), Kshēmavēnu (Mudu Bidare), these last three in Southern Kanara, and Belgula (Sravana Belgola) *samsthanas*. But the foundation of the present religious establishment is attributed to Chāmunda Rāya, who in about 983 A.D., set up the colossal statue of Gomata on the biggest hill, Indra-giri or Vindhya-giri. To provide for the maintenance and worship of the image, he established a *matha* and other religious institutions, with liberal endowments. According to a list from the *matha*, the following was the succession of *gurus*. They were of the Kunda-kundanvaya, Mula-sangha, Desi-gana, and Pustaka-gachcha.

Nemichandra Siddhāntāchārya—appointed by Chāmunda Rāya	...	*c.* 983
Kundakundācharya—appointed by Pāndya Rāya	...	*c.* 983
Siddhāntācharya—appointed by Vīra Pāndya	...	*c.* 983
Amalakīrtyācharya—appointed by Kuna Pāndya	...	*c.* 983
Sōmanandyācharya—appointed by Vinayāditya	...	*c.* 1050
Tridama Vaibhubandyācharya—appointed by Hoysala	...	*c.* 1070
Prabhachandra Siddhāntācharya—appointed by Ereyanga	...	*c.* 1090
Gunachandrācharya—appointed by Ballāla Rāya	...	*c.* 1102
Subhāchandrācharya—appointed by Bitti Deva	...	*c.* 1110

From 1117, the *gurus* all bear the name of Chārukīrti Panditācharya and endowments have been granted to

the *matha* by all succeeding lines of kings. There are about a dozen inscriptions printed in the *Epigraphia Carnatica II* (*Sravana Belgola*), revised edition, which give succession lists of Jaina *gurus*. Though these lists are difficult to reconcile, there is in them much valuable information about individual *gurus* which ought to merit the attention of the more serious student of Jaina history. It must be added that the Mutt list given above is not easily reconcilable with those yielded by the inscriptions.

The Maleyūr *matha* is subordinate to that of Sravana Belgola, and is now closed. According to Wilson, Akalanka, the Jain who confuted the Buddhists at the court of Hēmasitala in Kanchi in 788 A.D., and procured their expulsion from the south of India, was from Sravana Belgola, but a manuscript in Mr. Rice's possession states, it is said, that he was a *yati* of Maleyūr, and that Bhattakalanka is the title of the line of the *yatis* of that place.

The Humcha *matha* was established by Jinadattarāya, the *founder* of the Humcha State, in about the eighth century. The *gurus*, as given in the following list, were of the *Kundakundanvaya* and *Nandisangha*. From Jayakīrti Deva, they were of Sarasvati-gachcha. The descent is traced in a general way from Bhadrabāhu, the Srutakēvali, through Visākhamuni, the *Dasapurvi*, his successor, through Umasvati, author of the *Tattvarthasutra*, and then the following:—

Sāmantabhadra, author of *Dēvāgama stotra*.
Pūjyapāda, author of *Jainendra Vyakarana*, of a *nyasa* on Panini called *Sabdavatara*, and of a *Vaidya Sastra*.
Siddhāntikīrti, guru to Jinadatta Raya. About 730 A.D.
Akalanka, author of *Bhāshya* on the *Dēvāgama stotra*.
Vidyānanda, author of a *Bhāshya* on the *Aptamimamsa*, also of *Sloka vārttikālankara*,
Mānikyanandi.
Prabhāchandra, author of *Nyāyakumudachandrōdaya*, and of a *nyasa* on *Sakatayana*.
Vardhamāna munīndra, by the power of whose *mantra* Hoysala subdued the tiger 980-1040

His successors were *gurus* to the Hoysala Kings.

Vāsupūjya vrati, *guru* to Ballala Rāya... 1040-1100

Sripāla.	Subhākirti Deva.
Nēmichandra.	Padmanandi.
Abhayachandra, *guru* to Charama Kesavarāya.	Māghanandi.
Jayakīrti Deva.	Simhanandi.
Jinachandrarya.	Padmaprabha.
Indranandi.	Vāsunandi.
Vasantakīrti.	Mēghachandra.
Visalakīrti.	Vīranandi.
	Dhananjaya.

Dharmabhushana, guru to Dēva Rāya... 1401-1451

Vidyānanda, who debated before Dēva Rāya and Krishna Rāya, and maintained the Jain faith at Bilige and Karkala 1451-1508

His sons were :—

Simhakīrti, who debated before the court of Muhammad Shah 1463-1482

Sudarshana.
Mērunandi.
Dēvēndrakirti.
Amarakirti.

Visalakīrti, who debated before Sikander and Virupāksha Rāya 1465-1479

Nēmichandra, who debated at the court of Krishna Rāya and Achyuta Rāya 1508-1542

The *gurus* are now named Dēvēndra Tīrtha Bhattāraka.

Their sects.

There are two sects among the Jains, the Digambara, clad with space, that is, naked; and the Swētambara, clad in white. The first is the original and most ancient. The *yatis* in Mysore belong to the former division, but cover themselves with a yellow robe, which they throw off only when taking food. The *yatis* form the religious order; the laity are called *Srāvakas*. Certain deified men termed Tirthankaras, of whom there are twenty-four principal ones, are the chief objects of Jain reverence. Implicit belief in the doctrines and actions of these is obligatory on both *yatis* and *Srāvakas*. But the former are expected to follow a life of abstinence, taciturnity and continence; whilst the latter add to their moral and religious code the practical worship of the Tirthankaras and profound reverence for their more pious brethren.

Their moral code.

The moral code of the Jains is expressed in five *Maha-vratas* or great duties; refraining from injury to life, truth, honesty, chastity, and freedom from worldly desire. There are four Dharmas or merits; liberality, gentleness, piety and penance; there are three sorts of restraint; government of the mind, the tongue and the person. To these are superadded a number of minor instructions or prohibitions, sometimes of a beneficial and sometimes of a trivial nature. Among these may be mentioned the duty to abstain at certain seasons from salt, flowers, green fruit and roots, honey, grapes, and tobacco; not to deal in soap, natron, and iron; and never to eat in the dark lest a fly should be swallowed. The hair must not be cut but should be plucked out. The Jains hold the doctrine of Nirvana, but it is with them a state of beatific rest or quiescence, cessation from rebirth, but not annihilation. The practice of *Samādhi*, *Sanyasana* or *Sallekhana* (or religious suicide) is considered meritorious, and was at one time not uncommon, especially to bring to a close a life made intolerable by disease or other dire calamity. At the same time, Ahimsa or avoidance of the destruction of life in whatever shape, is the fundamental doctrine, carried to extremes. Numerous instances of *Sallekhana* are recorded in inscriptions (see *Epigraphia Carnatica II, Sravana Belgola*). In a few cases, the period of the fast is mentioned; it ranges from 3 days to one month. The epitaphs are dated from 600 A.D. to 1809 A.D. The process of fasting is thus described in the *Ratnakarandaka* of Sāmantabhadra :—

"One should by degrees give up solid food and take liquid food; then giving up liquid food, should gradually content himself with warm water; then, abandoning even warm water, should fast entirely; and thus with mind intent on the five salutations, should by every effort quit the body."

Their ritual.

The ritual of the Jains is as simple as their moral code. The *yati* dispenses with the acts of worship at his pleasure; and the lay votary is only bound to visit daily a temple, where some of the images of the Tirthankaras are erected, walk around it three times, make an obeisance to the images, with an offering of some trifle, usually fruit or flowers, and pronounce a *mantra* or prayer. The Jain prayer-formula is as follows:—

Namo Arhantānam
Namo Siddhānam
Namo Achāryānam
Namo Uvajjhānam
Namo loe saffa-sāhūnam:

Reverence to the Arhats, to the Siddhas, to the Achāryas, to the Upādhyāyas, to all Sadhus in the world.

Their sacred books.

The Jains reject the Vedas, and have their own sacred books. The original Pūrvas, 14 in number, were lost at an early period, but the 45 *Agamas*, which include the eleven Angas (specially considered the sacred books), the twelve Upāngas, and other religious works have been handed down. In their present form, they were, according to tradition, collected and committed to writing in the fifth century at Vallabhi, under the directions of Devarddhiganin but the Angas had previously been collected in the fourth century at Pātaliputra. The sacred language of the Jains is called Ardha-Māgadhi, but is a Prakrit corresponding more with Mahārashtri than with Māgadhi. In the eleventh century, they adopted the use of Sanskrit. Caste as observed among the Jains is a social and not a religious institution. In the Edicts of Asoka and early Buddhist literature, Jains are called Nigranthas (those who have forsaken every tie). With reference to their philosophical tenets, they are also by the Brāhmans designated Syādvādins (those who say *perhaps*, or *it may be so*) as they maintain that

we can neither affirm nor deny anything absolutely of an object, and that a predicate never expresses more than a probability. Professor Jacobi points out that Syādvāda is best understood by considering its relation to the doctrines it was employed to oppose. The great contention of Advaitins was that there is only one really existing entity, the Atman, the One-only-without-a-second (*ekādvitīyam*), and that this is permanent (*nitya*), all else being non-existent (*a-sat*), a mere illusion. Hence it was called the *ātmavāda*, *eka-vāda* and *nitya-vāda*. Their stock argument was that just as there are no such entities as cup, jar, etc., these being only *clay* under various names and shapes—so all the phenomena of the universe are only various manifestations of the sole entity, *ātman*. The Buddhists, on the other hand, said that man had no real knowledge of any such permanent entity; it was pure speculation, man's knowledge being confined to changing phenomena—growth, decay, death. Their doctrine was therefore called *anitya-vāda*. As against both these, the Jains opposed a theory of *varying possibilities* of Being, or various points of view (*anekānta-vāda*) Clay, as a substance, may be permanent; but as a jar, it is impermanent—may come into existence, and perish. In other words, Being is not simple, as Advaitins assert, but complex; and any statement about it is only *part* of the truth. The various possibilities were classed under seven heads (*sapta-bhanga*), each beginning with the word *syād*, which is combined with one or more of the three terms *asti* ("is"), *nasti* ("is not"), and *avaktavya* ("cannot be expressed"). These are thus enumerated by Dr. Bhandarkar :—

"You can affirm existence of a thing from one point of view (*syād asti*), deny it from another (*syād nāsti*); and affirm both existence and non-existence with reference to it at different times (*syād asti nāsti*). If you should think of affirming both existence and non-existence at the same time

from the same point of view, you must say that the thing cannot be so spoken of (*syād avaktavyah*). Similarly, under certain circumstances, the affirmation of existence is not possible (*syād asti avaktavyah*); of non-existence (*syād nāsti avaktavyah*); and also of both (*syād asti nāsti avaktavyah*). What is meant by these seven modes is that a thing should not be considered as existing everywhere, at all times, in all ways, and in the form of everything. It may exist in one place and not in another, and at one time and not at another."

Some Jaina Pandits illustrate the doctrine by pointing out that one and the same man may be spoken of under different relations as father, uncle, father-in-law, son, son-in-law, brother and grandfather.

Their Tirthankaras.

Pārśvanātha and Mahāvīra, the twenty-third and twenty-fourth Tirthankaras, were historical persons, of whom the former, it is supposed, was the real founder of Jainism, while the latter, whose country, descent, connections and life bear a close resemblance to those of Buddha (also called Mahāvīra and Jina, and the last of twenty-four Buddhas), and whose period also nearly corresponds with his, was its greatest apostle and propagator.

The following is the list of the twenty-four Tirthankaras :—

Name	Sign	Sasana Devi
Rishaba or Ādinatha ...	Bull	Chakrēsvari
Ajitanātha	Elephant	Ajitabalā
Sāmbhava	Horse	Duritāri
Abhinandana	Monkey	Kālikā
Sumati	Curlew	Mahākāli
Padmaprabha	Lotus	Syama
Supārsva	Swastika	Sānta
Chandraprabha	Moon	Bhrikutī
Pushpadanta	Crocodile	Sutārakā
Sitala	Srivatsa	Asoka
Sreyamsa	Rhinoceros	Mānavī
Vāsupūjya	Buffalo	Chanda

Name	Sign	Sasana Devi
Vimalanātha	Boar	Viditā
Ananthanātha	Falcon	Ankusā
Dharmanātha	Thunderbolt	Kandarpā
Sāntinatha	Antelope	Nirvāni
Kunthunātha	Goat	Bala
Aranātha	Nandyāvarta	Dhārini
Mallinātha	Water Jar	Dharanapriyā
Muni Suvrata	Tortoise	Naradattā
Niminātha	Blue Waterlily	Gāndhāri
Neminātha	Conch	Ambika
Pārsvanātha	Cobra	Padmāvatī
Vardhamāna or Mahāvira	Lion	Sidhayikā

The Jaina *Puranas* bear the name of one or other of the *Tirthankaras*, whose lives they record. The following list may prove interesting in this connection :—

Date	Author	Name of Purana	No. of Tirthankar
c. 1170	Nemichandra	Neminatha	22
1189	Aggala	Chandraprathi	8
c. 1195	Āchanna	Vardhamāna	24
c. 1200	Bandhuvarma	Harivamābhyudaya ...	22
1205	Pārsvapandita	Pārsvanātha	23
1230	Janna	Anantanātha	14
c. 1235	Gunavarma II	Pushpadanta	9
c. 1235	Kamalabhava	Santisvara	16
1254	Mahābalakavi	Nēminatha	22
1385	Madhura	Dharmanatha	15
1508	Mangarasa	Nemi-Jinesa	22
1519	Sāntikīrti	Sāntinātha	16
1550	Doddayya	Chandraprabha	8
1578	Doddananka	Chandraprabha	8

It will be seen that Neminātha, the 22nd Tirthankara is a great favourite for *Puranas* being devoted to him; and next to him comes Chandraprabha, the 8th, who has three *Puranas* dedicated to him.

Jainism in Mysore.

The history of the spread and decline of Jainism in the State, which is closely bound up with the history of

the State itself, may be briefly told here. The spread of this religion was greatly promoted in the second century A.D. by Sāmanta Bhadra and later by Akalanka who, as already stated, defeated the Buddhists in public disputation at Kanchi in the eighth or ninth century, in consequence of which they were banished to Ceylon. Jainism was the State creed in the time of the Gangas, of some of the Rāshtrakūtas and Kālachūryas and of the early Hoysalas. Also of the minor States of Punnata, of the Santāras, the early Chengalvas and the Kongālavas, as testified to by their inscriptions. But the Chola conquests in 1004, the conversion of the Hoysala king in 1117, and the assassination of the Kālachūrya king in 1167 were severe blows to its influence. In an endeavour to accommodate itself to the age, Jina is described in an inscription (Tumkur, 9) of 1151 A.D. as the Universal Spirit who is Siva Dhatri (Brahma), Sugata (Buddha) and Vishnu; and for a generation following, we find chieftains who were supporters of all the four creeds Mahēsvara, Jaina, Vaishnava and Buddha. In 1368 the then Vijayanagar King, Bukka, effected a reconciliation between them and the Vaishnavas, who had been till then at bitter enmity with them. Except for occasional interference on the part of the over-zealous Vīrasaivas, the Jains have been since then left to pursue their religious beliefs and practices in peace.

Some further information on Jains resident in the State will be found included in the accounts of the principal castes appearing in Chapter VI of this Part.

V. Buddhism.

Buddhism.

If the introduction of Jainism into the State was due to Chandragupta, the establishment of Buddhism into it was the act of Asoka, his grandson. The circumstances

under which this was done by him and the promulgation of his edicts in and near Mysore are referred to in detail in Vol. II of this work. It should suffice here to state that much of the country now part of North Mysore was already under Buddhist influence in the third century B.C. Asoka strove towards the close of his reign to propagate Buddhism in the State. His Edicts found engraved in the village of Siddapura, Molakalmuru Taluk of Chitaldrug District, show the spirit underlying the activities of this great Mauryan Emperor. He is also known to have sent Thēras or Missionaries of the Buddhist faith to Mahishamandala, the country round Mysore and to Banavasi, in the north-west of the State. Buddhism, however, did not strike root in the Mysore soil, either because it was eclipsed by Jainism which was more tolerant of ritualism, or it was not backed by the political influence that the other religion possessed. There is, however, some evidence to believe that the early kings of the Satavāhana line were Buddhists by religion as also some of the Bāna and Pallava kings. A Bāna king of the fourth century A.D. is compared in some inscriptions with Bōdhisattva in compassion for all living things in the world. Even so late as 1065 A.D., a Buddhist Vihāra was erected in Belgami and the Bauddha *Sāvāsi* is mentioned in 1098 A.D., while a great Bauddha town, named Kalavati, is referred to even in 1533. But Buddhists, it would seem, were never numerous in the State. The growth of Jainism proved a serious bar to the progress of Buddhism, while the causes which contributed to its downfall in other parts of India soon induced its practical disappearance in it. Whether there is any truth in the story told by Wilson that Akalanka, a Jain controversialist, finally confuted the Buddhists in argument at the court of Hemasitala at Kanchi and procured their expulsion to Ceylon in 788 A.D. or not, there is no doubt that they ceased to be of

any practical importance generally from about the 8th century A.D. in South India.

Causes of the decline of Buddhism.

So many works are now available on the subject of Buddhism that it is deemed unnecessary in this place to give any account of the life of Buddha and the doctrines he taught. Dr. Rhys Davids thus describes the causes which led to the decline of Buddhism in India generally:—

"It had been supposed on the authority of late priestly texts, where boasts of persecution are put forth, that the cause of the decline of Buddhism in India had been Brahmin persecution. The now accessible older authorities, with one doubtful exception, make no mention of persecution. On the other hand, the comparison we are now able to make between the canonical books of the older Buddhism and later texts of the following centuries, shows a continual decline from the old standpoint, a continual approximation of the Buddhist views to those of the other philosophies and religions in India. We can see now that the very event which seemed, in the eyes of the world, to be the most striking proof of the success of the new movement, the conversion and strenuous support, in the 3rd century B.C., of Asoka, the most powerful ruler India had had, only hastened the decline. The adhesion of large numbers of nominal converts, more especially from the newly incorporated and less advanced provinces, produced weakness rather than strength in the movement for reform. The day of compromise had come. Every relaxation of the old through going position was welcomed and supported by converts only half converted. And so the margin of difference between the Buddhists and their opponents gradually faded almost entirely away. The soul theory, step by step, gained again the upper hand. The popular gods and the popular superstitions are once more favoured by Buddhists themselves, The philosophical basis of the old ethics is overshadowed by new speculations. And even the old ideal of life, the salvation of the Arhat to be won in this world and in this world only, by self-culture and self-mastery, is forgotten or mentioned only to be condemned. The end was inevitable. The need of a

separate organization became less and less apparent. The whole pantheon of the Vedic gods, with the ceremonies and sacrifices associated with them, passed indeed away. But the ancient Buddhism, the party of reform was overwhelmed in its fall; and modern Hinduism arose on the ruins of both."

VI. Later Hinduism.

(*a*) The Several Brahman Sects.

Leading Brahman sects.

The decline of Buddhism was marked by the rise of new sectarian religions from about the eighth century A.D. These centred round the worship of new divinities, identified with Siva or Vishnu. The process by which the exaltation of these Gods took place is too large to go into here. It will be found sketched in some of the books mentioned at the end of this chapter, to which the reader is referred. Mysore was the home of some of the more important of these new sects. Sankarācharya, the philosopher-teacher, who resuscitated the worship of Siva, Vishnu and other Gods in the eighth century A.D., made Sringeri, in what is now known as the Kadur District, his headquarters and there established the principal of his Mutts in India; Ramanujācharya, born in the beginning of the 11th century, not far away from Madras, sought refuge in Mysore from the persecution of his own king and gave an impetus to the worship of Vishnu. Basava, the founder of the Virasaiva sect, which rose to prominence in the 12th century, though born outside the State, soon had many followers in it. Madhva, who belongs to the 13th century, lived and preached in territory which at no distant date formed part of this State. His successors have their most important Mutts in Mysore. As the sects founded by these teachers have still many thousands of adherents in and about the State, some account of them will be given below.

Smartas: Sankaracharya.

The Smartas (or traditionalists), follow the teachings of Sankarācharya. The great Vedantic teacher is stated to have been born at Kaladi, 6 miles to the east of Alvoi, now a station on the Cochin-Shoranur railway line. The exact date of his birth is not known. Sir John Fleet has adduced reasons to show that he lived between 625 and 655 A.D. Mr. Telang places him even earlier. South Indian literature seems correct, however, in assigning A.D. 788-820 as his date, for, he himself in his *Saundarya Lahari* refers to Sambanda, one of the South Indian Saints, as *Dravida sisu*. This date corresponds with the dates given by Messrs. Logan and Pathak and may be accepted as approximately correct. It also agrees with the date fixed by Professor Max Muller. Sankara is presumed to have been born of Nambūttiri parents, his mother having belonged, according to tradition, to the *Pazurpanai Illam*, a Numbūttiri family living in the neighbourhood of Trichur. Here the ground on which her remains were cremated is still pointed out. His father was known as Sivaguru, who seems to have died while Sankara was still a youth. Of his affection for his mother, several stories are told, one of the most noteworthy being his performing, though a Sanyasi, her funeral obsequies. He appears to have been brought up in the traditional way. His teacher, to whom he refers in every work of his, was Gōvinda, who was himself a disciple of the more famous *Gaudapāda*. After due initiation and study at Gōvinda's feet, on the banks of the Narmada, he repaired to Benares and from there commenced his wide travels through India. These peregrinations and refutations of different religious teachers and sects are told in the *Sankara Vijaya* and other similar works extant. In recent years, attempts have been made to extract the truth out of these traditionary versions, though it is still undoubtedly the fact that we know little authentic about the details of

Sankaracharya's life. It is, however, fairly certain that he visited Benares and lived there for a time. He also appears to have visited Badri in the Himalayas, where he set up a temple dedicated to Narayana, where a Nambūttiri (Malabar Brāhman) still officiates. His visits to Kēdara, Pūri (Jagannath) and a few other places, where his Mutts exist may also be true. He also travelled in the Deccan and Southern India, in the former of which he put down the evil practices of the Kāpālikas and in the latter the Sakti worship which in his times seems to have gained the upper hand. The temples of Kanchi (Conjeeveram) and Tiruvottiyūr, near Madras, seem to have been the chief seats of Sakti ritualism, in those days. These he appears to have successfully put down. It is stated that the famous Kumārila Bhatta, who confuted the Buddhists and Jains, was a contemporary of Sankara, and that the latter met him while he was consigning himself to the flames. Likewise, the *Sankara Vijaya* gives what appears a circumstantial account of Sankara's disputation with Mandana Misra, the disciple of Kumārila and his wife Bhārathi, who, it is related, was a sister of Kumārila and a renowned scholar. Both husband and wife were eventually worsted in disputation and followed Sankara on his return to the South. Here he established himself at Sringeri, where he set up his headquarters Mutt. Mandana Misra, his erstwhile opponent, donned the yellow robe and became Surēsvaracharya and as such, the head of Sankara's Mutt at Sringeri, and his wife, who apparently followed him, won sufficiently the esteem and admiration of Sankara to be practically deified in after years in a temple specially erected for her. After the latter, the headquarters Mutt at Sringeri is called the Sāradā Pīta. Sankara's place of death is not definitely known. In his final tour through India, he is said to have visited Kamrup (modern Gauhatti) in Assam, where he worsted

in a controversy Abhinava Gupta, a well-known Sakta commentator. He took ill here and retired first to Badari, where he is said (by Wilson) to have died. According to accounts current in Sringeri, he is said to have retired to that place after his final tour and died there after a prolonged residence. The succession of Gurus at Sringeri is traced from him directly and a small shrine is there shown as the place where he disappeared from life. It contains a statue of him, seated after the manner of the Buddhist and Jain images. The date of his death is probably 828 A.D. If this date is accepted as correct, he should have been but 38 years of age at the time, though, according to many Indian writers, he was only 32. It must, however, be added that Professor A. A. MacDonnel, who accepts 788 A.D. as the year of Sankara's birth, thinks that he "probably lived to an advanced age."

His works.

Though even the main facts connected with the life of Sankara are disputed, his literary and philosophical reputation rests on the solid basis of his works. These include commentaries on the *Upanishads*, the *Vedānta Sūtras* of Badarayan and the *Bhagavad Gīta*. A collected edition of his writings was published a few years ago by the Vani Vilasa Press at Trichinopoly. Many of his works have also been translated into English. The *Vedānta Sūtras* have been done into English by Dr. G. Thibaut and included in the *Sacred Books of the East*. Sankara's commentary on the *Bhagavad Gīta* has been translated into English by Mr. Mahadeva Sastri and his commentaries on the *Upanishads* have been widely quoted from by most writers, East and West. A work attributed to him by some scholars is the *Sarva Siddhānta Sangraha*, which is said to have been used as a model for his *Sarva Darsana Sangraha* by the celebrated Mādhava. A selection from his writings, text and translation, has

also been issued by an enterprising Madras firm of publishers. Though much has been done in making his original works available to the scholar and the student, no attempt has yet been made to present to the general reader a comprehensive and critical life of the great teacher. By far the best sketch of his philosophical system is that given by Dr. Thibaut in his introduction to the *Vedānta Sūtras*. The importance of Sankara's commentary on the *Vedānta Sūtras* will be manifest when it is stated that a translation of his commentary cannot be combined with an independent translation of the *Vedānta Sūtras*. His doctrine has been held by Dr. Thibaut to faithfully represent the teaching of the *Upanishads*. The same great authority says that his philosophy is nearer to the teaching of the *Upanishads* than the Sūtras of Bādarāyana. His whole system hinges on the doctrine of the absolute identity of the individual soul with the Brahman. It has still to be determined how much of his theory he owed to Gōvinda, his teacher, and Gaudapāda, his teacher's teacher. Gaudapāda's *Karika* on the *Mandūkya Upanishad*, which is not quoted by Sankaracharya anywhere in his writings, already contained the kernel of the theory developed so elaborately by Sankara. As has been pointed out by one critic, many of the thoughts and figures, which begin to appear in the *Karika* are in common use in Sankara's commentaries. Sankara may, in fact, be said to have reduced the doctrines of Gaudapāda to a system, as did Plato those of Parmanides. Indeed the two leading ideas, which pervade the Indian system, *viz.*, that there is no duality (*Advaita*) and no becoming (*Ajati*) are, as Professor Deussen points out, identical with those of the Greek philosopher. But Sankara's great contribution to Advaita theory is the doctrine of Maya, or cosmic illusion, which is really his own. The doctrine assumes nowhere in Gaudapāda the position it does in Sankara's

commentaries. The germ of the doctrine is no doubt found in the *Upanishads*, but that it obtains its classical form in Sankara's hands, there can be no doubt whatsoever. Attempts have not unnaturally been made to trace the causes which contributed to this development of the doctrine in Sankara's commentaries. Professor Jacobi has advanced the theory that a very important part of its content has been derived from Buddhism. Of course, there is no *a priori* reason to deny the possibility of such borrowing. In definitely historical times, as Dr. A. B. Keith has pointed out, there was clearly a lively interchange of views between Buddhism and Brahmanical schools, the growth of logic was furthered by discoveries or developments now by the one side, now by the other, and there is striking similarity between the doctrine of void, which was brought into special prominence by the Buddhist Nagarjuna in the first or second century A.D., and its development into Vijnanavada of Asanga, probably in the fourth century A.D., which has suggested to Professor Jacobi the view that the illusion theory as developed by Sankara owes much to Buddhism. Even conceding this, it cannot but be admitted that it is in Sankara's hands that the theory assumes its definite and indeed its complete form. The influence of his theory is to be seen in the *Sānkhya Sūtra*, which is probably a work that has to be assigned to the 15th century A.D. The *Sūtra*, which uses many phrases borrowed from Sankara, bitterly opposes, however, the doctrine of the unity of the soul, of the sole existence of the soul, the doctrine of ignorance and illusion and the view that the released soul has enjoyment as its characteristic. The Sankhya view apparently seems to have had weight with later exponents of Sankara's thought. This tendency to interfuse *Sankhya* thought with the Vedānta is clearly seen in the *Panchadasi* of Mādhava (about 14th century A.D.) and in the far more famous *Vedānta Sāra* of

Sadānanda, a work written before 1500 A.D. These and other matters relating to Sankara's theory and its later forms cannot be further pursued here. It should, however, be added that except for the few points in which Sadānanda betrays traces of Sankhya doctrine he is by far the best exponent of Sankara's Vedanta theory. His *Vedānta Sāra* was translated by Dr. Ballantyne as early as 1851.

His system of Vedanta.

For an authoritative exposition of the Vedānta system as propounded by Sankara the reader is referred to Dr. Thibaut's *Vedānta Sūtras* and to Professor Deussen's *Systems of Vedānta*. Many smaller publications on the subject are now so widely extant that a detailed statement of it is not deemed necessary in this work. The following is a brief resumé of the chief ideas underlying it:—Its fundamental doctrine, expressed in the famous formula TAT TVAM ASI, "thou art that," is identity of the individual soul with God (*Brahma*). Hence it is also called the *Brahma* or *Çaiiraka-mimamsa*, "Inquiry concerning Brahma or the embodied soul." The eternal and infinite Brahma not being made up of parts or liable to change, the individual soul, it is here laid down, cannot be a part or emanation of it, but is the whole indivisible Brahma. As there is no other existence but Brahma, the Vedānta is styled the *Advaita-Vāda*, or "doctrine of non-duality," being, in other words, an idealistic monism. The evidence of experience, which shows a multiplicity of phenomena, and the statements of the Veda, which teach a multiplicity of souls, are brushed aside as the phantasms of a dream which are only true till waking takes place.

The ultimate cause of all such false impressions is *Avidya* or innate ignorance, which this, like the other systems, simply postulates, but does not in any way seek to account for. It is this ignorance which prevents the soul from recognizing that the empirical world is mere

Maya or illusion. Thus to the Vedantist the universe is like a mirage, which the soul under the influence of desire (*Trishna* or "thirst") fancies it perceives, just as the panting hart sees before it sheets of water in the *Fata Morgana* (picturesquely called *Mriga-Trishna* or "deer-thirst" in Sanskrit). The illusion vanishes as if by magic, when the scales fall from the eyes, on the acquisition of true knowledge. Then the semblance of any distinction between the soul and God disappears, and salvation (*Moksha*), the chief end of man, is attained.

Saving knowledge cannot, of course, be acquired by worldly experience, but is revealed in the theoretical part (*Jnana-Kanda*) of the Vedas, that is to say, in the *Upanishads*. By this correct knowledge, the illusion of the multiplicity of phenomena is dispelled, just as the illusion of a snake when there is only a rope. Two forms of knowledge are, however, distinguished in the Vedānta, a higher (*Para*) and a lower (*Apara*). The former is concerned with the higher and impersonal Brahma (neuter), which is without form or attributes, while the latter deals with the lower and personal Brahma (masculine), who is the soul of the universe, the Lord (Isvara) who has created the world and grants salvation. The contradiction resulting from one and the same thing having form and no form, attributes and no attributes, is solved by the explanation that the lower Brahma has no reality, but is merely an illusory form of the higher and only Brahma, produced by ignorance. But as the mind of man cannot elevate itself to the contemplation of the inscrutable First Cause and only Soul, he may be contemplated through inferior deities and sought through the prescribed rites and exercises. This creed thus tolerates all the Hindu deities, and the worship of the following was, by Sankarāchārya's express permission, taught by some of his disciples:—that of Siva, Vishnu, Krishna, Sūrya, Sakti, Ganēsa and Bhairava.

Sringeri Mutt.

The Sringeri Swami or the head of the *Matha* or the Monastery at Sringeri, the principal one established by Sankarāchārya, is styled the *Jagat Guru* or *Jagad Guru*, the priest of the world, and is possessed of extensive authority and influence. The *Matha* is situated on the left bank of the Thunga, in the centre of a fertile tract with which it was endowed about 400 years ago by the Vijayanagar kings. The estate yields a revenue of Rs. 50,000 a year, and a further sum of Rs. 10,000 a year is received from the Mysore State. But the expenses connected with the feeding of the Brahmans, and the distribution of food and clothing on festival days to all comers of both sexes, exceed the income, and the Guru is constantly engaged in long and protracted tours through various parts of the country for the purpose of receiving contributions from his disciples. He wears a tiara like the Pope's, covered with pearls and jewels, said to have been given to him by the Peshwa of Poona and handsome necklace of pearls. His sandals are covered with silver. He is an ascetic and a celibate, and in diet, very abstemious. He is borne along in an *Adda Palki* or palanquin carried crossways, which prevents anything else passing. He is attended by an elephant and escort, and accompanied by a numerous body of Brahmans and disciples.

The following is the succession of Sringeri Gurus, obtained from the *Matha*:—

	Consecrated	*Died*
	A.D.	A.D.
Sankarāchārya (Born 737 A.D.)	745	769
Sureshvarāchārya	753	773
Nityabhodaganāchārya	758	848
Jnanaganāchārya	846	910
Jnānottamasivāchārya	905	953
Jnāngiri Achārya	949	1038
Simhagirisvarachārya	1036	1098
Isvarathirthāchārya	1079	1146
Narasimha-Muni or Mūrti	1114	1228

Commenting on Sureshvarāchārya's death, Mr. Rice says :—

"This date is plainly given in the annals, according to Salivahana Saka. But the preceding dates are absurdly referred to the Vikrama Saka, in the fourteenth year of which Sankarāchārya is said to have been born; and to connect the two eras, Sureshvarāchārya is gravely asserted to have held his authority for 800 years, although only 32 years are granted to Sankarāchārya. Accepting the succession as correct, I have taken the names of the years, and calculated the preceding dates accordingly. That Sankarāchārya lived in the latter part of the eighth century has been conclusively proved by Mr. Pathak (*J. Bo. Br. R. A. S., XVIII, 88*; *Proceedings, Ninth Oriental Congress*) as admitted by Dr. Bühler and M. Barth."

	Consecrated A.D.	*Died* A.D.
Vidyasankara Swāmi	1228	1333
Bhārati Krishna Thīrtha	1328	1380
Vidyāranya	1331	1386
Chandrasekhara Bhārati	1368	1389
Narasimha Bhārati	1387	1408
Bhakta Sankara Purushottama Bhārati ...	1406	1448
Sankarananda Bhārati	1428	1454
Chandrasekhara Bhārati	1449	1464
Narasimha Bhārati	1464	1479
Purushottama Bhārati	1472	1517
Ramachandra Bhārati	1508	1560
Narasimha Bhārati	1557	1573
Narasimha Bhārati	1563	1576
Immadi Narasimha Bhārati	1576	1599
Abhinava Narasimha Bhārati...	1599	1622
Sachchidānanda Bhārati	1622	1663
Narasimha Bhārati	1663	1705
Sachchidānanda Bhārati	1705	1741
Abhinava Sachchidānanda Bhārati	1741	1767
Narasimha Bhārati	1767	1770
Sachchidānanda Bhārati	1770	1814
Abhinava Sachchidānanda Bhārati	1814	1817
Narasimha Bhārati	1817	1879
Sachchidānanda Sivābhinava Narasimha Bhārati	1867	1912
Chandrasekhara Bhārati	1912	(Now *guru*)

Vidyāranya, of the above list, has been identified with Mādhava, the brother of Sāyana and the celebrated author of *Parāsara Madhavīya*, the *Sarva Darsana Sangraha* and other works. He was, according to his works,

a Minister of the then Vijayanagar King Bukka. Contemporaneously with him, there lived another Mādhava, of a different *Gotra*, who was also an author and a Minister of King Bukka. The latter, however, appears to have been but a Provincial Governor on the West Coast, while the other Mādhava—identified with Vidyāranya—describes himself as the "bearer of the burden of the sovereignty of King Bukka," which interpreted means his chief or prime minister. This postulation of two Mādhavas has, however, been disputed in certain quarters. The whole question requires further elucidation.

Sri Vaishnavas.

The next great sect is that of the Sri Vaishnavas, more popularly known as Vaishnavas. They are the followers of the teachings of Rāmānujacharya, the well-known Hindu religious reformer. Vaishnavism is an old religion and has long been prevalent in one form or another in Southern India from a period long anterior to Ramanuja. How ancient it really is, it is difficult to say.

Antiquity of Vaishnavism: the Bhagavatas.

From the fact that Rāmānuja bases his interpretation of the *Vedānta Sūtras* on Baudhayana's commentary on the same, it has been inferred that Vaishnavism is at least as old as Baudhayana's time. Baudhayana has been assigned to the sixth century B.C. The Bhāgavatas, whose doctrine is expounded in the *Mahābhārata*, the *Bhagavad Gīta*, the *Bhāgavata Purāna* and other works, are probably the followers of Baudhayana's school and as such, the forerunners of Rāmānuja. These Bhāgavatas, also called Pāncharātras, are referred to by Sankarāchārya in his commentaries on the *Vedānta Sūtras* and refuted. Their system is, according to Dr. Thibaut, nearer to Bādarāyana than that of Sankara, though, it must be admitted, as presented by Rāmānuja in his chief work, he makes it diverge considerably from the *Sūtras* of Bādarāyana. The Bhāgavata theory is

set forth in its most authoritative form in the *Pāncharātra Tantra*. The system of Pāncharātra is said to have been declared by Nārāyana himself. A scholarly account of the Bhāgavata cult will be found in Dr. Thibaut's introduction to Sankara's *Vedānta Sūtras*. A class of teachers who probably followed the Bhāgavatas in their religious views were the twelve Vaishnava Ālvars, who flourished in Southern India from about the first century A.D. onwards.

The Ālvars.

Their chronology is not yet accurately determined, but the following is the traditional order in which they are said to have appeared :—

1. Poygai Ālvar.
2. Būthathu Ālvar.
3. Pey Ālvar.
4. Tirumalīsai Ālvar.
5. Nammālvar.
6. Madhurakavi Ālvar.
7. Kulasēkhara Ālvar.
8. Periyālvar.
9. Āndal.
10. Tondaraddippodi Ālvar
11. Tiruppanālvar.
12. Tirumangai Ālvar.

Of these, the first three are said to have been contemporaries, and are apparently the earliest of the twelve. Their hymns speak of Nārāyana as the highest God and frequently refer to the early Avatars, more especially the Trivikrama. The *Bhagavad Gīta* was known to them as also the *Bhāgavata* in one form or another, for their poetry shows a close acquaintance with Krishna's early life. They presuppose the existence of temples dedicated to Vishnu at Srirangam, Tirupathi, Algarkoil (near Madura) and other places. These were probably the earliest shrines at which the Bhāgavatas worshipped, if they did not actually establish them. The reverence they show to the Vedas and the personal relationship they seek with God in their hymns show that they were Bhāgavatas of the true type. Nammālvar, fifth in the above list, is better known as Satakōpa. He is, perhaps, the most famous of the twelve. He was a native of Kurukai, now Ālvār Tirunagiri, near Tinnevelly. He

composed over a thousand hymns in Tamil. He appears to have visited many of the shrines sacred to Vishnu and to have, as usual, composed verses in their honour. His hymns are known as the *Tiruvoymozhi* (Lit: the word of the holy mouth) a term now applied to the whole collection of hymns sung by all the Ālvars. Kulasēkhara is said to have been a king of Travancore. Āndal was a woman, Tiruppan, a Paraiyan, and Tirumangai, probably a Kallan. Since Tirumangai, the last of these, is believed to have lived in the second quarter of the seventh century A.D., the period of the Ālvars actually closed at least four centuries before the birth of Rāmānuja.

Nathamuni and his successors.

Nāthamuni, who has been assigned to the 9th century A.D., collected the hymns of the Ālvars into four collections of about a thousand stanzas each and arranged for their regular recitation at Srirangam. Nāthamuni influenced the growth of Vaishnavism in a twofold manner. By making the recitation of the hymns of the Ālvars part of the daily ritual at the temples in common with recitation of the Vedas, he not only sanctified the work of the Ālvars but also popularized the Vaishnava religion. On the ontological side, he is credited with having developed the doctrine of *Prapathi* or surrender to God in absolute renunciation and faith which was first inculcated by Satakōpa. The work of Nāthamuni thus laid the foundation for the differences that now divide the *Vadagalais* (Northerners) and the *Tengalais* (Southerners). A grandson of Nāthamuni was Yāmunāchārya (better known as Ālavandar) who did much to advance Vaishnavism. He probably lived during the reign of the great Chola King Rāja Rāja (985-1012 A.D.) to whom he allusively refers in one of his works. He was both a poet and a philosopher. Some of his works have come down to us and these show how well he prepared the ground for Rāmānuja's work. That he continued the

Bhāgavata tradition in its theoretical aspect may be gathered from his *Siddhi Traya* in which he controverts Sankara's doctrine of Avidya. In his *Āgama Prāmanya,* he defends the Pāncharātra position from the attacks of Sankara and attempts to prove its orthodoxy in a manner that has won modern approval. In his *Gitārtha Sangraha,* he still further elaborates the *Visishtadvaita* position and a comparison with it of Rāmānuja's *Gīta Bhashya* shows how much the latter owed to his predecessors.

Rāmānuja.

To Rāmānuja, however, belongs the credit of not only extending Vaishnava influence North and South but also evolving a coherent system of philosophy suited to the times out of the accretions that had gathered round the ancient Bhāgavata doctrine. Rāmānuja was born at Sri Perambudur, not far away from modern Madras, in 1017 A.D. He was the son of Kesava Bhatta, who had married Kāntimathi, a grand-daughter of Yāmunāchārya. He studied under Yādavaprakāsa, an Advaita teacher of great fame at Kanchi, the modern Conjeeveram. He early showed considerable independence of thought and controverted the teacher on many occasions. The story goes that Yādavaprakāsa was rather chagrined at this and plotted to get rid of him while on a pretended journey to Benares. Rāmānuja apprised of the evil intention by a relation and a co-pupil before the party had proceeded far from Kanchi, quietly separated from them and returned home safe. Not long after, he got under the influence of one Kanchipūrna, a non-Brahmin disciple of Yāmunāchārya, who was a devotee of the famous Vishnu temple at Kanchi. An intimacy grew up between the two, which eventually led to Rāmānuja giving up his married life and becoming a *Sanyasin.* From this time, his activities as a teacher and propagator of Vaishnavism apparently commenced. Men

began to flock to him, among the first converts, according to tradition, being his own old teacher Yādāvaprakāsa. He then settled down at Srirangam and there devoted himself first to the completion of his religious and philosophic studies. Then he began to compose his works, the first of which is the *Vedānta Sangraha*, in which he examines the chief Upanishads which lend weight to the *Advaitic* view and establishes, after controverting that view, his own standpoint. In this work, he also attacks Sankara's doctrine of *Maya* and the *Bheda-abheda* doctrine of Bhāskara and Yādava, the successors of Sankara in the Advaitic school of thought. The *Srī Bhāshya*, which makes up his commentaries on the *Vedānta Sūtras* of Bādarāyana, is his next work. This has been translated by Dr. Thibaut in the *Sacred Books of the East* as also by the late Professor M. Rangacharya. It is based on the earlier *Vritti* (or commentary) of Baudhayana, already referred to. To secure this ancient commentary, Rāmānuja, it is said, travelled as far as Kashmir with an ardent disciple of his who, tradition says, committed the *Vritti* to his memory and acted as his amanuensis afterwards. The importance of this great work for a proper understanding of the *Sūtras* of Bādarāyana, will be manifest when it is said that it enshrines in some respects an earlier tradition which Sankara or his predecessors ignored or left out of account. *Vedānta Sāra* and *Vedānta Dīpa* are other works in which Rāmānuja re-states his views in simpler language. His *Gīta Bhāshya* (*Commentaries on the Gīta*) is also a notable work. His exposition of the *Gīta*, however, closely follows that of Yāmunāchārya, especially in laying stress on the doctrine of *Bhakti* as propounded in it. These works and his practical zeal for his religion established his reputation far and wide. As became a teacher of eminence, Rāmānuja travelled extensively through India, visiting almost every part of it and

making known his doctrine. We are told in the traditionary accounts of his life that, after visiting the different shrines in Southern India connected with Vaishnavism, he went to Rameswaram and from there to Ālvār Tirunagiri, the birthplace of Sage Satakōpa, and from thence to Malabar and Travancore, from where he trecked northwards along the sea-coast to Girnar and Dwaraka in Guzerat, where Sri Krishna is supposed to have lived and ruled. Thence he went to Muttra, Govardhan, etc., places connected with Sri Krishna's exploits. Then he went further north up to Himalayas to Badari. From there he went to Kashmir, always famous for its scholarship. At Srinagar, he made a great name for himself which raised jealousy against him. Escaping from a plot against his life, he soon left the place and arrived at Benares. From there, he travelled south-eastwards and reached Jagannath, where he established a Mutt. He then travelled south and reached Tirupati, where he amicably settled a dispute as to the nature of the image on the hills. His authority settled it in favour of Vishnu and since then, there has been no controversy about the matter. After short halts at Conjeeveram, and a few other Vaishnavite holy places, he returned finally to Srirangam.

His flight to Mysore.

Rāmānuja was now apparently at the height of his fame. But the very fame brought trouble on him. Kulōttunga, the reigning Chola King, it is said, sent word to him at the instigation of Saivite bigots that he should appear before him and subscribe to the dictum that there is none superior to Siva. Two of Rāmānuja's devoted disciples, one of them personating him in his garb of a *Sanyasin*, went to King's Court and there, refusing the Saivite creed, were blinded. Meanwhile, Rāmānuja fled the country and skirting the Nilgiris, entered into Mysore. There he first established himself

at Vahnipushkarani, a place on the Cauvery about forty miles west of Mysore. Thence he moved on to Mirle and Saligram, about ten miles westwards. Here Rāmānuja spent some time, converting a large number of people and among them one Āndhrapūrna, also called Vaduhanambi, so called probably because he was a Telugu-speaking Brahman. This Āndhrapūrna became ever afterwards a devoted follower of his and in one sense his biographer. His *Yatirāja Vaibhavam* is, barring perhaps the 108 verses of the Smartha convert Amudan of Arangam, known as *Rāmānuja Nārandādi*, the best contemporary account we have of Rāmānuja's life and work. Rāmānuja thence moved on to Tonnur, where in time he converted the reigning Jain King Bitti Deva, who thereafter came to be known as Vishnu Vardhana. The story of his conversion will be found referred to in Vol. II, Chapter III of this work. Rāmānuja's stay in Mysore extended over nearly twenty years, during which he built up a large Vaishnavite community in it. He built the temple of Tirunārāyana at Melkote, a few miles north of Mysore, where still a great festival takes place every year attended by thousands of persons from every part of India. He also set up temples at Belur and other places, in 1117 A.D., to all of which he admitted, on festive occasions, for one reason or another, the Panchamas, the lowest among the Hindu castes. Meanwhile, Kulōttunga Chola died and his successor showed himself a more tolerant king. Rāmānuja, hearing of this, returned without delay to Srirangam. Out of the two disciples who went to the Court of Kulōttunga, Mahāpūrna, the elder, died on his way home. The other, Kurēsa (or Kurthālvar) by name, was now old and decrepit and he was received with marked favour and duly condoled with. After more years of quiet work, the great teacher died, it is said, in his 120th year at Srirangam.

His system of Vedanta.

The *Visishtadvaita* system inculcates the *Advaita* or oneness *with attributes*. It is qualified monism. God alone exists, all else that is seen is his manifestation, attribute or *Sakti*. Such attributes are *Chit* or the individual souls and *Achit* or matter. The *Advaitic* position is also that God alone exists and all else is manifestation. This element is common to both systems of thought. The *Advaita* regards the manifestation as unreal and temporary and as the result of *Avidya* or Nescience. In the *Advaitin's* views, therefore, the one Brahman is without any attribute. Rāmānuja regards the attributes as real and permanent, but subject to the control of the one Brahman in all their modifications and evolutions. The oneness of God is compatible, in his view, with the existence of attributes, as the latter are incapable of existing alone, and do not constitute independent things. They are called *Prakaras* or modes, *Sesha* or accessories, and *Niyamya* or the controlled, of the one Brahma. The word Brahma is thus used either to denote the central trinity, when it becomes possible to speak of the souls and matter, as its attributes, or to denote the combined trinity when the whole universe may properly be described as consisting of Brahman alone. According to *Visishtadvaitism*, the souls are neither absolutely independent entities nor endowed with the separate capacity of separate existence and activity, apart from Brahman. The chief points in which Sankara and Rāmānuja agree and differ will be found stated by the interested reader in Dr. Thibaut's edition of *Vedānta Sūtras, Part III, Sacred Books of the East, Vol. XXXIV, pp. xxx)*. Rāmānuja, as may be expected, denies the existence of the two Brahmans postulated by Sankara and also the doctrine of *Māya* as developed by him. He likewise denies the distinction between a higher and a lower knowledge. He enlarges on the relation of the individual soul to the Brahman. According to Rāmānuja,

the soul is of minute size and a knowing agent. Creation, according to him, is the sport of Brahman. Brahman is, according to him, the creator of the world; Brahman modifies itself into the world; the world is his body; the Brahman and the world, indeed, are related to each other as the snake and its coils. Certain tenets peculiar to Rāmānuja are of some interest. Such are his eternally free souls (*Nityas*); heaven conceived as a distinct place apart from and outside the changeable universe, though not outside Brahman; the existence of the deity in physical forms of various kinds; the peculiar path of souls on their release from the body, etc. These, however, do not touch his philosophical system, as such.

Later history of Vaishnavism.

The later history of Sri Vaishnavism is chiefly interesting, because it accounts for the gradual growth of the differences which mark the two sects into which it is divided, the *Vadagalais* and the *Tengalais*. The most notable name connected with the former is that of Vedānta Dēsika, a nephew of one Ātreya Rāmānuja, who was himself the great-grandson of one Prapatārtihara, a nephew and disciple of Rāmānuja himself. The acknowledged head of the Tengalais is Manavālamahāmuni. Both these were great leaders and instructors as well on religious and philosophic topics. Vedānta Dēsika was born about 1268 A.D. and died about 1369 A.D. Manavālamahāmuni was born in 1370 A.D. and died about 1443 A.D. The differences which divide the followers of these two great exponents of Vaishnava faith seem to have been of slow growth. The disputes between these sects, so well known in Madras, have not penetrated into this State. The Government of Mysore have, since 1894, directed that neither the "V" nor the "Y" mark should be used in disputed cases but only a *tilaka* or streak (*Vide* Government Order No. 411-19, dated 21st July 1905).

The third great Brahmanical sect is that of Madhvas. These are also known as Sad-Vaishnavas. The founder of the sect was Madhvāchārya, who has infrequently been confounded with Mādhava, the author of *Sarva Darsana Sangraha* and other works. According to recent researches, Madhvāchārya was born in or about 1238 A.D. and died in 1317 A.D. Madhvas: Madhvāchārya.

He was the son of a pious Brahman, named Madhyagēha Bhatta, of the village of Pājaka, close to Udipi, in South Kanara District. He was brought up in the Bhāgavata School, Madhyagēha himself being a noted Bhāgavata. He studied under Achyuta Prēksha, a renowned teacher of the time who presided over a mutt of note at Bhandārkere, which is still in existence. There is evidence to believe that Achyuta Prēksha was a devout Bhāgavata and differed widely from the prevailing *Advaita* school of thought. He is stated to have written a commentary of his own on the Brahma Sūtras, which however has not come down to us—probably Madhvāchārya owed not a little to this great teacher of his. After his ordination, when he was but 11 or 12 years of age, he held many successful disputations with religious leaders of different schools and was soon installed in a *Mutt* of his own. He then travelled through India going up to Badari twice. On the east coast of Madras, he made many notable conversions to his new faith. One of these was Narahari Tīrtha, who subsequently held sway over the Kalinga country as guardian of the then infant King. Another was Sobhana Bhatta, who as Padmanābha Tīrtha succeeded him in the Pontificate. In his own country he was equally successful. One of the most noteworthy adherents to his faith was Trivikrama Panditāchārya, the father of Nārāyana Panditāchārya, the author of *Madhva Vijaya*, which chronicles the leading events of Madhvāchārya's life. His life.

His works.

Madhvāchārya is also known by the names of Madhyamandara, Pūrnapragna, and Ānanda Tīrtha. His literary works are twenty-eight in number, of which the following are perhaps the best known:—*Gīta Bhāshya*; *Gīta Tātparyanirnaya*; *Anu Vyākhyāna*; *Sūtra Bhāshya*, being commentaries on the *Bādarāyana Sūtras*; *Anu Bhāshya*, which is a commentary on the *Sūtra Bhāshya*; commentaries on the more important ten Upanishads; *Dvādasa Stōtra*; *Rig Bhāshya*; *Mahābhārata Tātparya Nirnaya*, a summary of the *Mahābharata*; the *Bhāgavata Tātparya Nirnaya*, which is a similar treatise giving the gist of the *Bhāgavata*; *Vishnu Tatva Nirnaya*; *Tatva Sankhyana*; *Tatva Viveka*; *Māyāvāda Khandana*; *Upādhi Khandana*; the ten *Prakaranas*, including *Tatva Nirnaya*, *Yamaka Bharata*, *Saādāchara Smriti*, *Jayanti Kalpa*, etc. A work of some interest dealing with the great *Ekadasi* Fast is the *Krishnamrita Mahārnava*. Another work worthy of note is *Karma Nirnaya*, which deals mainly with ritualism. His writings show that Madhvāchārya was as deeply read on the purely philosophical as on the ritualistic side. Among other miscellaneous works may be mentioned *Yati Pranava Kalpa*, *Narasimha Nakha Stuti*, *Tantra Sāra*, *Kanduka Stuti*, etc. His knowledge of music seems to have been particularly great. On one occasion, it is said of him, that on being called upon to sing, he, like Orpheus, made the seeds in the palm of his hand sprout up to the strains of his music. On another occasion, when a king doubted that the recital of a Vedic hymn would cause seeds to sprout and grow, Madhvāchārya, to demonstrate the truth of the Vedic teaching, recited, it is said, the well-known hymn *Ya Aushadhi* in such a manner that the seeds in the hollow of his hand began to sprout up as the Sruti had declared. Making due allowance for poetic and popular exaggeration, there can hardly be any doubt that Madhvāchārya was a great proficient in the chanting of the Vedas.

His system of Vedānta can only be briefly sketched here. As Vyāsa Rāya, one of the greatest exponents of Madhvāchārya's writings, puts it in a well-known verse, n Madhvāchārya's system, "Hari (Vishnu) is supreme; he world is real; separateness of Paramātman and Jivātman is true; the individual souls are infinitely graded as superior and inferior and are dependent on God; liberation is self-realization consisting in the enjoyment of such bliss as remained latent in the soul. Pure Bhakti (devotion) is the means to this end. Perception, inference and testimony are the sources of knowledge, mundane and heavenly." "Hari (Vishnu) is knowable in the Entirety of the Vedas and by Vedas alone." Madhva is not only a Vaishnava, in that he makes Vishnu, the paramount Lord of the Universe, but he is also a pronounced dualist who believes in a personal God. Though he made Vishnu Lord Paramount, he did not show any rancour towards Siva. In this, he differed from Rāmānuja. This was, perhaps, due as much to his environment as to the theory and practice underlying Bhāgavata worship. He differs from Rāmānuja on the devotional side as well. According to Rāmānuja, Para Brahman is the material and efficient cause of the world. Madhva objects to God being the material cause of the world. In regard to the individual souls, Rāmānuja holds them capable of infinite knowledge and bliss and says that, when the final release occurs, all the released souls enjoy bliss in an equal measure of perfection, equal to God himself. Madhva does not allow this. To him, the idea of individual souls ever reaching a footing of equality with God, in point of bliss or any other respect, is unintelligible. He draws thick lines between souls and matter and between these and the Para Brahman. He differs even more fundamentally from Sankara. These are really at the opposite poles. His position being that individual souls are different from the Para Brahman,

His system of Vedānta.

he denies they could ever be absorbed into the Brahman. He denies both identity and merger. He denies extinction of the soul, and in doing so goes further than Rāmānuja. He is thus a declared opponent of the doctrine of *Māya*. While Sankara maintains the unreality of the Universe by reason of *Māya*, Rāmānuja holds the opposite view that there is no such thing as illusion in the world at all, in matters mundane or Divine. According to him, even the silver-in-the-mother-of-pearl and the snake-in-the-rope are realities and not illusory. Madhva, on the other hand, says that the world is real and not illusory. But it is not impossible that illusion or misapprehension should occur when the senses and the mind are diseased, and sufficient cause exists to produce a perverted perception or experience. Madhva was not prepared to hold that, when a rope is imagined to be a snake, the snake exists in reality in the rope, and is not a mere figment of the imagination. Madhva pays special attention to the doctrine of *Māya* in his works. His *Māyāvāda Khandana* is entirely taken up with this topic. He follows up his criticism in his *Upādhi Khandana* and *Tatvōdyōta*. In these and other works, he attacks each component part of his doctrine. According to Sankara, Brahman is attributeless. Madhva says that a Brahman without attributes is tantamount to *Sūnya* or *Nihilism*. If Brahman is *Nirguna*, why is the term *Nirguna* required to describe him? Is not that epithet itself a kind of predication? The *Srutis* treat extensively of the Brahman in descriptive language and enjoin a study of the Brahman as the only road to salvation. If this is so, it seems a contradiction in terms to state that the Brahman is indivisible and without attributes. Madhva in fact opposes the fundamental canon of interpretation adopted by the propounders of the Advaita.

Madhva *Mutts.*

It is not intended to give here a complete account of the several Madhva *Mutts* that were founded by

Madhvāchārya. Only those which have directly to do with Mysore or have its headquarters here will be considered. The *Uttarādi Mutt* (*i.e.*, the original North *Mutt* because it was first presided over by men drawn from the North or *Uttara Desa*) is the prime pontifical seat of Madhvāchārya. This *Mutt* has its headquarters at Hole-Narsipur and has had a succession of teachers. Padmanābha Tīrtha, the immediate successor of Madhvāchārya, founded a *Mutt*, now known as Sri Pādarāya *Mutt*, which has its headquarters at Mulbagal in the Kolar District. The most famous *Guru* of this *Mutt* was Sripāda Rāya, who was a contemporary of the Vijayanagar King Sāluva Narasimha (1487-1493 A.D.). He is well known by his hymns. Mādhava Tīrtha, a *Guru* of the Uttarādi *Mutt*, founded the present Majjigehalli *Mutt*, which also has its headquarters at Mulbagal. Akshōbhya Tīrtha, his successor in the Uttarādi *Mutt*, founded the *Mutt* named after him at Kudli. He was a contemporary of Vidyāranya. His student was Jayatīrtha, the Scholiast of Madhvāchārya's works. Jayatīrtha is more famous as Tīkāchārya. He was sainted at Mulkhed in His Exalted Highness the Nizam's Dominions. A disciple of Akshōbhya was Rājēndra Tīrtha, who founded a *Mutt* of his own which is now well-known as the Vyāsarāya *Mutt*. Vyāsarāya, after whom it is called, was a contemporary of Krishna Rāya, the Vijayanagar King (1509-1530) and appears as one of his donees in an inscription dated 1527 A.D. A disciple of his was Purandaradāsa, whose hymns are famous in Southern and Western India. Kanakadāsa, another disciple of his, was also a noted hymnologist. Vyāsa Rāya himself was a great polemical writer and some of his works are still ardently studied by students of Madhva Philosophy. His life is detailed in *Vyāsa Tīrtha Vijaya* and in *Vyāsa Yōgīsa Charita* by Somanatha, which is now in course of publication. During the time

of Sri Rāma Tīrtha, a successor of Vyāsa Rāya, the Vyāsarāya *Mutt* branched off into two sections, which have up-to-date remained independent of each other. One of these has its headquarters at Sosale and the other at Kundapura. In the time of Rāmachandra Tīrtha of the Uttarādi *Mutt*, Vibudhēndra, a disciple of his, founded the Pūrvadi, Rāghavēndraswami, or Sumatēndra *Mutt*, which has its headquarters now, at Nanjangud. Many distinguished *gurus* have presided over this *Mutt*. Copper-plate grants in possession of the *Mutt* show the patronage they enjoyed during the days of Hindu rulers. One of these was Vijēndra Tīrtha, who was a disciple of Vyāsa Rāya. He was a voluminous writer and a contemporary of Appayya Dīkshita, the great Advaita scholar. Another was Rāghavēndra Tīrtha, a great Vedic scholar and commentator. He was sainted at Manchala in the Bellary District.

(*b*) Lingayats.

Virasaivas.

The Virasaiva community comprises a large number of castes and tribes from the Brāhman downwards which has during the course of ages come under the influence of the religion known popularly as *Lingayat* or *Sivachar*. The more accurate name for this religion is *Vira Saiva*, which is both the older and the more authoritative one for it. The religion of Siva is, as we have already seen, an ancient one. The term *Vira Saiva* literally means a champion of the notions and practices of the Saivas and is ordinarily used to describe one who wears the Linga on his body (Cf. *Basava Purāna*, 3, 49 ; 25, 26 ; 50, 43). Their creed is described as Vira Saiva Achāra (*Basava Purāna*, 22, 23). It has been suggested that the name applies to those who have adopted the extreme views of this sect, "ultra or warrior followers of the *Saiva* system, a term which indicates their polemical zeal." The term

has, however, the general significance that the persons who bear it are strict *Saivas* and as such champions of their faith. It is a term like *Vira-Vaishnava*, which signifies a champion of the notions and practices of the *Vaishnavas*—Rāmānuja or Madhva.

Early Saivism.

In the *Rig-Veda*, *Rudra* is a prominent God. In the Yajur-Veda he begins to appear as Siva, being several times mentioned by that name as well as by other epithets peculiar to Siva, such as *Sankara* and *Mahādēva*. In the *Grihya Sūtras*, *Rudra* takes the name *Hara* and is described as being the "Universe." In the *Upanishads*, *Hara* is used in the sense of God, which shows the transformation in conception that has taken place. He is now described as the one God, the supporter of the Gods, creator of the world. He is, indeed, identified with *Prāna* and is regarded as a manifestation of the highest *Brahman*. The *Bhagavad Gīta* speaks of Siva as the Ruler of Creators. Whether a God evolved by the Aryans or adopted to some extent from the non-Aryans, it is inferable that slowly Siva came to be recognized in Brahmanic literature as a great deity equal in power to Vishnu and *Brahma*. About the 4th century B.C., his worshippers became exclusively *Sivaites*, thus beginning the sectarian worship of Siva, whom they called *Mahesvara*. By the 4th century A.D., the rivalries between the *Saivites* and *Vaishnavites* led to a compromise which ended in a formal union of the Gods—Vishnu and Siva under the dual form of Harihara, Sankaranārāyana, etc. The relation of the *Bhāgavata* cult to this fusion has already been dealt with. Still later, the fusion was extended to Brahma and resulted in the union of three great Gods, Brahma, Vishnu and Siva as Trimurti or "the three forms in one." Despite these attempts, sectarian worshipping apparently persisted in the land.

Influence of Kashmirian Saivism.

In South India, there were by the 6th century A.D. Saiva sects and in Kashmir, by the 9th, we find two schools of *Saivism*. The period between the 6th and 9th centuries A.D. was marked by a revival of *Saivism* in South India. The great men who worked for it came to be regarded with special veneration in later days. Their list includes the famous sixty-three devotees, whose lives figure as much in Tamil as in Kannada Saivite literature of a later date. This period coincides with the suppression of the heretical faiths of the Buddhist and Jains and the cleansing of the *Saiva* faith itself by Sankarāchārya. During the time of the Chola Kings, especially Rāja Rāja, Rajendra and Kulōttunga Chola III, (from about the close of the 10th to about the middle of 12th century), the Pāsupatha form of *Saivism* flourished in South India.

Pāsupatha system.

The *Pāsupathas* are, as a sect, mentioned in very early literature including the Mahābhārata (*Sāntiparva*) and the *Vāyu*, *Kūrma* and *Linga* Purānas. Some have assigned them to 200 B.C. and whether this is justified or not, there is no doubt that Lakulisa, its founder, can be traced back as far as the first century A.D. His name frequently appears in Mysore inscriptions, in which his creed is referred to as the Lakulāgama, Lakulāmnāya, Lakulasamaya, etc. It is possible, as suggested by Mr. Rice, that there were a succession of *Gurus* of this name. Lakula's religion, however, was only one particular form of *Saivism*. There were at least three other allied forms known from early times and these together formed the four schools of *Saiva* thought and worship. They have been usually referred to as jointly forming the *Pāsupatha* school. *Rāmānuja* in his *Sri Bhāshya* referring to the *Pāsupathas* names them as follows:— *Kapālas*, *Kālāmukhas*, *Pāsupathas* and *Saivas*. According to *Tarkarahasyadīpika*, a commentary on the

Shaddarsana Samuchchaya of Gunaratnasūri, a work of about 1363 A.D., these four were known by the following names:—*Kālāmukha*, *Pāsupatha*, *Saiva* and *Mahavrathadhara*.

Its spread in the State.

There was much give and take between these schools and there is evidence to believe that these were closely connected with each other. The *Kālāmukhas* (or Kālānanas) were apparently from Kashmir and were settled in the Mysore State as early as the beginning of the 9th century A.D. Apparently, they came through the Dahala country, identified with Chedi in Central India. Later they appear to have spread their influence all over the State being in charge of *Saiva* temples and establishments. The Chola conquest of the country in the beginning of the 11th century A.D. probably added to their already great influence in the land. A succession of teachers of this school is known from Mysore inscriptions and their period ranges from the 9th to the 15th centuries. One of their most famous centres in the State was Balagami in the Shimoga District. One inscription describes them as having immigrated from Kashmir, which is corroborated by other inscriptions of the school found outside the State. Indeed, it may be said, that Kashmir was the centre for Saivism from about the 9th century and it was the country from which most of the great Saiva teachers came to resuscitate their religion in the south. They seem to have been highly respected by royal personages, whose *gurus* they were in different parts of India. The *Saivism* taught by them was of the catholic type and did not break away from the traditional Vedic faith. Numerous inscriptions show that they cultivated Vedic and Philosophical learning and lived in amity with the followers of Vishnu, Jina and Buddha. The teachers were either married or celibate, the latter being more venerated. The *Kālāmukhas* apparently had settlements

all over the South, the most important known being Sri Parvatha or Srisaila in the present Kurnool District; Balagāmi, in the Shimoga District; Abbalur, Hangal, Gadag and other places in the Dharwar District; Chadurgola and Asagude in the Chitaldrug District; and probably many other places. In the Telugu country, the *Kālāmukhas* were in existence as early as the time of the Eastern Chalukya King Amma II (A.D. 945 to 970). They appear to have been divided into branches and sub-branches known as *Parshes*, *Āvalis* and *Santatis*. But on these and other matters, we have still to learn a great deal. A peculiarity about their names is that they end in *Sakti*, *Rāsi*, *Siva*, *Ābharana*, etc. The first of these is borne solely by them while they share the others sometimes with other Saivas. The Saivas of this period paid equal attention to the Vedas and the Saiva Āgamas. There is, indeed, reason to believe that the revolt against the Vedas was never a pronounced one. Though in some respects they differed from the orthodox school of interpreters, the Saivas never were heterodox to the extent of rejecting the Vedas. In describing themselves, they profess to be interpreters of the Veda and in classifying themselves, they set themselves with the other known schools of thought such as Jaina, Buddhist, Mimāmsaka, Sānkhya, Nyāyika, Advaitin, etc., and they speak of their own *Siddhānta* (the Lakula *Siddhānta*) along with that of Patanjali. They studied earnestly the Vedas, taught them to their students and provided for their exposition in their endowments. As the higher intellectual followers of Siva, they take Siva as a convenient name for their immanent transcendental God. Saivism struggled against Vedic *control* rather than against Vedic *belief*.

Basava's reform.

In the time of King Bijjala of the Kālāchūrya line (12th century), Basava, his minister, gave a popular, if

not an entirely political, turn to Saivism. The ground had been already prepared for him by a succession of Saiva teachers who had dared to preach the equality of men in the eyes of Siva, whom they had proclaimed the one God. The story of Basava's life and his struggle with Bijjala will be found narrated in Vol. II, Chapter VI of this work. A careful comparison between the versions of the Jain and Virasaiva writers is necessary before a final verdict on him and his work can be pronounced. There is scarcely any doubt that he produced a lasting impression on the men of his day. He appears to have gone a step further than the Saiva propagandists of his time. This is evident both from his extant works and from the literature he has inspired.

Spread of his religion.

Pālkurki Sōmanatha, a poet famous in Telugu and Kannada literatures, writing within forty years of Basava's death, speaks of him as "the Avatar of Nandikēsa" and makes him the first of the Aṃaraganas. Among the others he mentions in this connection, are Chennabasava, Ekāntarāmaiya and a number of women, who all appear to have been among the first to be his followers. There is abundant evidence that Siddha Rāma, Sōmanātha and others were prominent among those who propagated Basava's religion in the Andhra and Karnataka countries. Sōmanātha's *Basavapurāna*, the earliest of its kind, treats of its origin and spread in a metre specially chosen for propagandistic purposes. Even women could commit the poem easily to memory and it is probable it gained currency at first largely by oral recitation. Very similar is his other poem, *Basavaragada*, which is even more popular. His other works also—and they are many in Kannada, Telugu and Sanskrit—treat of Basava's religion. They testify to the great hold that Basava had gained on the imagination of his contemporaries. A point to note in this connection

is that the first propagators were, like Basava himself, Brahmans. Even the satirical description that Dharani Pandita, a Jain writer of the 17th century, indulges in his *Bijjala Rāya Charita*, concedes that the religion attracted all classes of people. There is reason to believe that the kings of the first Vijayanagar dynasty were largely under Saiva influence. Kriya Sakti was the Guru of Bukka, Harihara and Dēvarāya. Mādhava Mantrin, the Vijayanagar Governor of Banavasi and other countries on the West Coast, was a disciple of Kriya Sakti. Kallarasa, a Kannada poet who wrote during the time of the Vijayanagar king Mallikārjuna (A.D. 1446 to 1467), calls himself a disciple of Kriya Sakti, probably the Kriya Sakti we have just mentioned. Under the influence of these teachers and ardent kings, who professed their religion, Saivism flourished and soon had a large following everywhere in Southern India. The literature of the period bears ample testimony to this fact. Bhima Kavi, a Kannada poet, composed a Purāna in Basava's name about 1369, which was not long after translated into Telugu. Sankara Kavi gave a Sanskrit rendering of it. A Kannada commentary on it by Mallikārjuna was written about the end of the 16th century. Popular renderings of Basava's life and teachings are many. Some will be found referred to in Vol. II, Chapter IV of this work. Similarly, Chennabasava, his nephew and an ardent disciple, has also a Purāna devoted to him. This was written by Virupāksha Pandita, who also lived towards the close of the 16th century. Indeed, during the 15th and 16th centuries, the religion of Basava was written upon and expounded by a series of writers who have left their mark on Kannada literature.

Virasaiva Doctrines.

From these writings, some idea of the doctrines and religious beliefs of Virasaivas can be obtained. The religion of the *Pāsupathas* made Siva the transcendental

God. They affirmed that Siva as *Pasupathi* was the operative cause. Basava and the host of writers who have built their religion on his writings and teachings were the intellectual descendants of these *Pāsupathas.* Not only in their theories, but also in their teachings, they recognize this relationship. In fact, the teachings of the writers who lived before Basava form the bed rock of *Virasaivism* as professed to-day. Gubbiya Mullanna's *Gana Bhāshya Ratnamāle,* a work of the 15th century A.D., shows this unmistakably. Other works of the same kind, belonging to the same century, from which the same inference may be drawn are *Linga Līla Vilāsa* of Kalla Mathada Prabhudēva and *Nurōndusthala* of Jakkanārya. These and other works of professedly Virasaiva origin leave no doubt that the Saiva faith as propounded by Basava sought to base itself on the teaching of previous Saiva teachers. Indeed it has been the settled practice of Virasaiva teachers to explicitly state, following in this again the earlier Saiva teachers, that what they set down is the essence of the Vedas, Upanishads, Puranas, etc. *Vedāgama Purānetihāsādi Granthagalu, Vedāgamōpanishat Sammathiyam,* etc., are the usual words employed. Like the *Pāsupathas,* they professed to act in accordance with the Srutis and not outside of them. As will be seen below, this aspect of their religion has received the attention of Rāmānuja in his *Srī Bhāshya.* Among the distinctively Virasaiva doctrines are *Ashtāvaranam* and *Shatsthala, Shatsthala-gnāna* or *Shatsthalaviveka.* Ashtāvaranam, or the eight environments, are aids to faith and protection against sin and evil. These are: (1) obedience to a *guru*; (2) worship of a *linga*; (3) reverence to the *jangamas* as for an incarnation of Siva; (4) *vibhūti,* or cowdung ashes, *i.e.,* its devout use on the body; (5) wearing of a *rudrāksha* (*eleocarpus ganitras*) sacred to Siva; (6) *Pādōdaka,* the washing in or drinking of water in which the feet of

a *guru* or *jangama* has been bathed; (7) *Prasāda*, the presentation of food to a *guru*, *linga* or *jangama*, and eating sacramentally what is left; and (8) *Panchākshara*, the uttering of the five-syllabled formula *Namah Sivāya* ("Obeisance to Siva"). The *Shatsthala* doctrine has received the very widest attention from Virasaiva writers, several important works being wholly devoted to its elucidation. Among these may be mentioned *Prabhu Deva's Shatsthala Gnāna Chāritra Vachana Tīka*, also called *Shatsthala Viveka*, which is Mahalinga Deva's commentary on Prabhu Deva's work, and *Ekōththara sthala* by the same author, Jakkanārya's *Nūrondu-sthala*, Māyi Deva's *Shatsthala Gadya*, etc. The last of these, Māyi Deva,—who wrote about 1430 A.D.—has been famous in later Virasaiva literature as *Shatsthala Brahmavādi*. In its essence, *Shatsthala-gnāna* consists in the strict adherence to the rule that prescribes both religious belief and conduct. This is comprehensively set down as comprising six different heads, each being further sub-divided into different items, the whole together being 101 in number. These 101 are known as *Ekōththara Shatsthala*, the six major heads being called the *Shatsthala*. *Shatsthala* may be popularly described as the six stages of approximation towards union with Siva. These are:—(1) *bhakti*, (2) *mahēsa*, (3) *prasāda*, (4) *prāna linga*, (5) *sarana*, and (6) *aikya*, which means absorption. *Sthala* means the eternal, impersonal divine entity (also called *Siva-tatva*) which manifests itself as *Linga-Sthala* (the personal deity to be worshipped). The three degrees of manifestation of the deity are sometimes described as the *Bhāva-linga*, *Prāna-linga*, and *Ishta-linga*, the first corresponding to spirit, the second to the life or subtle body and the third to the material body or stone-linga. The connection of *Shatsthala* to the "Six Mudras" of the Saivas described by Rāmānuja in his *Srī Bhāshya*,

is an interesting one. It cannot, however, be gone into here for obvious reasons. On the philosophical side, however, Virasaivas differed from the *Pāsupathas* and other Saiva schools. Unlike them, which are dualistic, they hold a doctrine of qualified spiritual monism. Srikantasivāchārya, whose *Bhāshya* on the *Vedānta Sūtras* is well known, approximates to the Virasaiva view. This qualified monism of the Virasaivas resembles that of Rāmānuja, though there is a radical difference between the two schools. With Rāmānuja, there is a real rudiment of the soul and of the external world characterizing God which afterwards develops, but with the Virasaivas, there exists a power only in God which leads to creation, so that it is the power that characterizes God according to the Virasaivas, while the rudiment is his characteristic according to Rāmānuja. The method of redemption taught by the Virasaiva School is that of Bhakti or love of God, and a course of moral and spiritual discipline up to the attainment of *Samarasya* with Siva. In this respect also Virasaivism resembles Rāmānuja's system.

VII. Islam.

Islam.

The commercial intercourse which existed from the remotest times between the Western Coast and Arabia doubtless led to a spread of Muhammadan influence into the neighbouring countries, but the first appearance of Mussalmans by land south of the Vindhya mountains was in 1294, in the invasion of Alā-ud-din, who captured Dēvagiri. Their introduction into Mysore was probably in 1310, when Dorasamudra, the capital of the Hoysala kingdom, was taken by the Muhammadan General, Malik Kafur. There is a story that the Sultan's daughter fell in love with King Ballala from the reports of his valour, and threatened to destroy herself unless married to him.

Eventually, his sword was sent as his representative, with due escort, and to that the Princess was formally wedded and then joined the King. They lived happily for ten years after which he was induced, by the consideration that he was a Rajput and she of inferior caste, to put her away, which provoked, it is said, the second invasion of 1326. Under the Vijayanagar Empire, the continued rivalry and struggles between that power and the Bahmani and Bijāpur Pathan kingdoms gave occasion for the further introduction of Islam into Mysore. But it was in 1406, in the reign of Dēva Rāya, who, as elsewhere related, gave his daughter in marriage to Firōz Shah, that Muhammadans were first enlisted into the Vijayanagar army. The Rāja built them a mosque and had the *Koran* placed before his throne in order to receive their obeisance, which they refused to make to him as an idolator, but willingly made to their sacred book. Subsequently about 1560, a Muhammadan force from Bijāpur assisted the usurper Tirumal Rāya, and a little later, the Vijayanagar army helped Bijāpur against Ahmadnagar.

The permanent settlement of Muhammadans in Mysore may be assigned with certainty to the time, first of the Bijāpur conquest under Ranadulla Khan in 1637, and second, to the Moghul conquest under Khasim Khan in 1687 and the formation of the Province of Sira. By settlement, conquest and conversions, there were considerable numbers of Muhammadans employed in the military and the other services in the territories of Mysore, Bednur, Chitaldrug and the other Provinces at the time of Haidar Ali's usurpation in 1761. A Navāyat commanded the forces of Bednur in the decisive battle of Mayakonda in 1748, when Madakeri Nayak fell, and Chanda Saheb, whose cause he had espoused, was taken prisoner, his son being also slain. Under Haidar Ali, there was doubtless a considerable accession to the Mussalman ranks by forcible conversion of captives in

war and other means, but the dark and intolerant zeal of Tipu Sultan made the cause of Islam a pretext for the most terrible persecutions and degradations, with the avowed object of extinguishing every other form of belief. It is unnecessary in this work to give an account of the life of Muhammad (570—632 A.D.), or of the tenets and propagation of the religion he established. They are contained in every general history. The interested reader may, however, be referred to Sir William Muir's *Life of Mohammad*, which is classical on the subject. For a short but critical and impressive account of Muhammad's career and work, Meredith Townsend's essay entitled the "Arabian Prophet" in his well-known Studies—*Asia and Europe*—may be usefully consulted. A readable summary of the origin and tenets of this religion may be read in Dr. R. E. Hume's recently issued publication, *The World's Living Religions*.

The name which Muhammad used for his faith expresses exactly its central principle—"Islam," meaning "Submission to God." Another word derived from the same Arabic verbal root is the participle, "Muslim," or in the more common form, "Mōslem," which is used as a technical term to designate "those who submit."

Islam is unique among the religions of the world in that its sacred scriptures are avowedly the revelation of God to the founder. The main speaker in the *Koran* is Allah. Sometimes Allah is represented as simply speaking to Muhammad, and sometimes as bidding Muhammad to speak as the mouthpiece of God. The *Koran* now in use dates from the times of Othman, the third Caliph. To put an end to the variations and confusions which had arisen among the reported sayings of Muhammad, he ordered some ten or twelve years after the death of Muhammad a revision of the same, all existing copies of the previous compilation of Abu Bakr, the immediate

successor of Muhammad, being destroyed. Literary criticism has traced the many sources which had entered into the mind of Muhammad before he uttered these teachings. Some traditional Arabic beliefs and folklore can be recognized in the *Koran*. Some elements may have been originally Zoroastrian, for example, the devil, angels, the judgment-day, the resurrection. There are many references to persons and events of the Old Testament. Some Rabbinical remnants from the Jewish Talmud may be identified. There are many allusions to the New Testament evangel "Injil," and to Christianity, including at least eight references to the Messiah and twenty-five to Jesus Christ. Indeed, attention has to be drawn to a curious resemblance between the meaning of the Greek word "Paraclete" and the Arabic word "Ahmed," which is a synonym for "Muhammad," so that the founder of Christianity is represented as predicting, literally, the future founder of Islam.

The structural arrangement of the *Koran* is in 114 chapters, or "Suras," totalling slightly less than the New Testament and about one-quarter of the size of the Old Testament. The first chapter contains a short opening prayer, the famous *Fatiha*. Thereafter the chapters are arranged simply according to their length. From the longest at the beginning, with 286 verses, they diminish down to the short chapter at the end, the shortest containing only three verses. Modern critical scholars believe that they have succeeded in identifying the "Suras" which were "revealed" in the successive periods of Muhammad's life—first at Mecca, then at Medina, and again at Mecca. Rodwell's translation (see *Bibliography* at the end) presents the *Koran* in this rearranged chronological order of chapters, which discloses the process of development in Muhammad's own mind. Every one of the chapters, except the ninth, begins with the well-known formula: "In the name of Allah, the

Compassionate, the Merciful"—*Bismi 'llahi 'rrahmani 'rrahim.* Historically, the *Koran* has been the most influential book in all Arabic literature. Hardly an Arabic book of any importance has been written subsequently without making allusions to, or quoting from, it. It is the chief text-book in the modern Muhammadan University of Al-Azhar, at Cairo.

Monotheism is Muhammad's pre-eminent religious message. As formulated in the *Koran*, his main teaching is—that there is one Sole God, whose name is Allah. The historical origin of this monotheism was, it has been pointed out, three-fold: partly in Muhammad's own insight into an ultimate unity in the Supreme Being of the universe, partly in his learning this great idea directly from Jewish monotheism, and partly in his conscious reaction against the crude tritheism of the Syrian Christians whom he came into contact with. The *Koran* contains some noble descriptions of the omnipotent and beneficent Creator, which have won the acceptance of both Jews and Christians. The finest description of God in the *Koran* is the famous "Verse of the Throne" or "Verse of Power," which is frequently inscribed in mosques.

The essential Muhammadan beliefs are six in number:—

(1) Belief in one God, Allah;
(2) Belief in Angels;
(3) Belief in the *Koran*;
(4) Belief in the Prophets of Allah;
(5) Belief in Judgment, Paradise, and Hell; and
(6) Belief in the Divine Decrees.

The five primary Muhammadan duties called "the Five Pillars of Islam" are:—

(1) Repetition of the Creed, *Kalimah*, every day in the original Arabic. This runs as follows:—

"There is no God but Allah, and
Muhammad is the prophet of Allah."

The simple repetition of this creed is accepted as a test of conversion to Islam.

(2) Prayer. The *Koran* frequently enjoins the duty of praying. The call to prayer may be heard from the minaret of every mosque five times every day. The *Koran* requires prayer at three stated times—day-break, noon, and night. It must always be directed toward the Sacred Mosque at Mecca.

(3) Alms-giving. This is a duty explicitly enjoined upon faithful Moslems.

(4) Fasting during the days of the month of Ramadan.

(5) The pilgrimage to Mecca (*Haj*). Every Moslem is required once in his lifetime to go to Mecca, to circumambulate the Sacred Mosque, and to kiss the Kaaba Black Stone seven times. However, in case of inability, a Moslem may send a substitute on this sacred duty. The pilgrimage is to be performed within certain lunar months, according to certain other details.

In this State, the Ramadan (called also Ramzan) is kept for thirty days. The Muharram, a season of lamentation, is correctly kept here as a period of mourning. The principal other public feasts are the Bakr-īd and the Shubebarāt.

The Muhammadans belong to one of two religious sects, the *Sunni* and *Shiah*, the great majority being *Sunnis*. The Turkish Moslems are mostly *Sunnis*. They are so called from accepting the *Sunnat* or traditional law, based on the sayings and practice of Muhammad, as of authority supplementary to the *Koran*. They also revere equally the four successors of the Prophet, alleging that he made no arrangements for hereditary succession and left the matter to the faithful. The *Shiahs*, on the other hand, attach supreme importance to the lineal descent of the Imam or head of the faithful. They, therefore, reject the claims of the three Khalifs that succeeded Muhammad and recognize Ali, the fourth Khalif, the husband of Fathima, the Prophet's only surviving child, as the true Imam, followed by their

two sons Hassan and Hussain. To the usual formula of belief, they add "Ali is the Khalif of God." The various sub-divisions of *Shiah* Muhammadans differ among themselves conceding the number of *Imāms*, or divinely appointed leaders, and also conceding the identity of the latest Mahdi, or Guided one. The *Shiah* Moslems are located chiefly in Persia and Africa. Their tendency is toward liberalism and mysticism. Well-known authorities agree in thinking that they have been influenced by other systems of belief, especially Zoroastrianism. The *Sufi* sect of Moslems, who are so named from their original clothing of *suf* or coarse wool, exhibit still another religious trait. They have developed the idea of incarnation and are characterized by the pantheistic tendency that even ordinary men may almost become divine by a process of asceticism and mysticism. They have been located mostly in Persia and India. The most famous *Sufi* was the Persian mystic Jalal-ud-din Rumi (1207-1273 A.D.). The most famous religionist, revivalist and author in the whole history of Islam was Alghazati, who died in 1111 A.D.

The following is the distribution of Muhammadans in the several districts according to the Census of 1921:—

Sl. No.	Class	Bangalore including C. & M. Station and City	Kolar including Gold Fields	Tumkur	Mysore including City of Mysore
1	2	3	4	5	6
1	Sheikh	46,375	29,003	20,445	26,254
2	Saiyid	17,540	12,940	5,741	8,019
3	Moghul	2,338	1,646	824	1,615
4	Pathan	14,917	8,176	6,015	7,283
5	Labbe	1,913	623	182	4,215
6	Pinjari	247	965	891	9
7	Others	5,909	2,822	3,806	6,039
	Total ...	89,239	56,175	37,904	53,464

Sl. No.	Class	Hassan	Shimoga	Kadur	Chitaldrug	Grand Total
		7	8	9	10	11
1	Sheikh ...	11,033	22,283	9,917	18,742	184,052
2	Saiyid ...	3,132	5,487	2,195	4,939	59,993
3	Moghul ...	719	682	505	593	8,922
4	Pathan ...	2,280	4,293	1,356	2,436	46,756
5	Labbe ...	572	306	578	75	8,494
6	Pinjari ...	4	210	12	2,362	4,700
7	Others ...	1,331	2,657	2,404	2,576	28,544
	Total ...	19,071	35,918	16,967	31,723	340,461

The four classes first above given are those of reputed pure descent. But although good families doubtless remain in various parts, the bulk are of mixed descent, due to intermarriage and conversions, voluntary or enforced. *Sheikh* denoted properly a lineal descendant from Muhammad through his successors Abu Bakr and Umar; and *Saiyid*, a descendant through his sons-in-law Ali and Hussain. But these titles have probably been often assumed by converts promiscuously without reference to their signification. Pathans are of Afghan origin, descendants of Kutub-ud-din, the founder of the Pathan dynasty, and his followers; while Moghuls are descended from Tartar chiefs who followed Tamerlane into India. The Sherifs, nearly all in Tumkur District, claim to be descended from nobility.

Hanifi are a sect of *Sunnis*, who follow the teachings and traditions of Abu Hanifa, one of the four great Doctors of Islam. In fact, one of their principal distinctions is in multiplying ceremonial ablutions. The *Daire* of Mahdavi are a sect peculiar to Mysore, principally

settled in Channapatna in the Bangalore District, and at Bannur and Kirigaval in the Mysore District. Their belief is that the Mahdi has already appeared in the person of one Saiyid Ahmad, who arose in Guzerat about 400 years ago claiming to be such. He obtained a number of followers and settled in Jivanpur in the Nizam's Dominions. Eventually, being worsted in a religious controversy, they were driven out of the Haidarabad country and found an abode at Channapatna. They have a separate mosque of their own, in which their priest, it is said, concludes prayers with the words "the Imam Mahdi has come and gone," the people responding in assent and denouncing all who disbelieve it as infidels. They do not intermarry with the rest of the Muhammadans. The *Daire* carry on an active trade in silk industry with the West Coast, and are generally a well-to-do class.

The Arabs, Kandaharis, and Baluchis are mostly in Bangalore, and come here as horse-dealers and traders in cloth.

The *Labbe* and *Mapille* are by origin descendants of intermarriage between foreign traders (Arabs and Persians), driven to India by persecution in the eighth century, and women of the country, but the later designation was taken by the children of those forcibly converted to Islam in Malabar in the persecutions of Tipu Sultan's time. The *Labbe* belong to the Coromandel Coast, their principal seat being at Negapatam, while the *Mapille* belong to the Malabar Coast. The former speak Tamil and the latter Malayālam. The *Labbe* are an enterprising class of traders settled in nearly all the large towns. They are vendors of hardware, collectors of hides and large traders in coffee produce, but take up any kind of lucrative business. They are also established in considerable strength as agriculturists at Gargeswari in the Mysore District.

The *Meman*, all in the Civil and Military Station of Bangalore, are immigrants from Cutch, come here for trade. By origin, they appear to have been Rajputs. The *Pinjāri*, as their name indicates, are cleaners of cotton. They do not intermarry with other Muhammadans, who, as a rule, have no intercourse with them. The Pindāri were to a great extent Afghans, Mahrattas and Jats in origin, disbanded from the service of the Moghul Empire, but became known as a tribe of free-booters who ravaged India on a grand scale, with large armies and gave rise to many wars. They were finally suppressed in Central India in 1817 in the time of Marquis of Hastings. They are now settled down in the pursuit of peaceful occupations, in agriculture and Government service of various kinds.

The *Navāyats* in the State are not many. They appear to be immigrants into India from Mesopotamia. One of the places in which they originally settled appears to have been Bhatkal in North Kanara, close to the Mysore frontier. An interesting account of their history and manners and customs will be found in the *Quarterly Journal of the Mythic Society, Bangalore* (XI, 41-5).

VIII. Christianity.

The Catholic Church.

The close connection of the greater part of Mysore with Malabar and the Western Coast affords grounds for supposing that Christian influence may at a very early period have been extended to this country. But the first systematic attempt to convert Mysore to Christianity was made by the Dominicans about 1325 A.D. Their leader was Fra Jourdain Catalanus De Severao, who on his return to Europe, was consecrated, in 1328, Bishop of Quilon at Avignon by Pope John XXII. After his consecration, he came back to India, where he was put to death by the Muhammadans at Thana near Bombay.

The converts made by the Dominicans, in the territories which later on went to form the Mysore State, numbered at least 10,000, but nothing is known of what became of them. There is, it is true, a statement that in 1445 a Christian was Dewan of Vijayanagar. He may have been a descendant of those converts. For further particulars on this head, the interested reader is referred to *Du Brahmanisme et de ses rapports āvec le Judaisme et le Christianisme, by Mgr. Laoœnan, Pondicherry, 1 p. t. 11*, 402-403.

Through the Bijāpur conquest of the north and east of Mysore and the conversion to Christianity by the Portuguese of many in the Konkan, Christian influence and preaching found their way to Mysore. There is a tradition that St. Francis Xavier, the zealous disciple of St. Ignatius of Loyola, who came out to India in 1542, traversed Mysore on his way to the south, but his attempts at conversion among the Kanarese people proved fruitless.

Coming down to a later period, we know the intimate relations which existed between the Bijāpur State and the Portuguese Settlement at Goa, and so it is from the capture of Goa by Albuquerque in 1510 that we may date the foundation of the Roman Catholic Church in Southern India.

The Franciscans found their way to Mysore from Goa about 1587 A.D. We have no definite information on the result of their preaching, but when the Jesuits appeared on the scene in the beginning of the following century, they found Catholics in the Mysore territory: a special mention is made of a flourishing congregation at Seringapatam.

In a new attempt to introduce Christianity into Mysore, we find that the effort came from two different directions and we are confronted with a Kanarese and a Telugu Mission, the Portuguese Jesuits working in the West and the French Jesuits in the East.

It was the Portuguese Jesuits who founded the Kanarese Mission. They came from Satyamangalam, where they had a large number of Christians, through the wild tracts of jungle on the borders of the Cauvery, and established congregations, the descendants of whom are still to be found in a few villages in the south-east. On one spot, at Basavapatna, is pointed out a ruined Chapel marked by four large stones on which are inscriptions dated 1704 authenticating the gift of the land to the "Sanyasis of Rome." Father Cinnami made Seringapatam the headquarters of the Jesuit Kanarese Mission. The number of Christians in Seringapatam itself was greatly increased when Haidar Ali brought thither nine thousand Catholics from Mangalore. Some of these Catholics were enrolled in the army and put in charge of one of the forts of the City, others were employed in manufacturing arms and in looking after the horses. At Palhalli, near Seringapatam, another Christian congregation was formed, but we do not know at what date. There is a tombstone in the church bearing the name of one Father Michael and the date 1781. Gadanhalli had its first Christian converts in 1760 and the first church was built there in 1768. It contains the tomb of one Father Rajendra with the date of 1776. When Haidar Ali conquered Nagar in 1763 some Konkanis came to that place, where they built a chapel of which nothing remains. It is said that of the two bells which were in that church, the larger one is in a Hindu temple at the foot of the Ghats and the other one in a temple near Nagar itself. In the Tumkur District, Sira had a Catholic church in 1770.

In the East, a Telugu Mission was established in 1702 by two French Jesuits, named Boucher and Mauduit, who came from Thakkolum, about eight miles from Arkonam and who built chapels at Bangalore, Devanhalli, Chikballapur, Hoskote, Anekal, Kolar and other places.

On the strength of an inscription on a stone at Anekal, purporting to have the words "Jesu Naderu" and the date 1400 engraved at the foot of a Cross, it has been asserted that this was the most ancient known Catholic Station in the State, but on further investigation, it has been proved that the stone is an ordinary boundary stone with a Cross but without a date. This stone is now set up in the St. Patrick's Cathedral compound, Bangalore. Abbè Dubois from authentic records computes the number of Christians in Mysore in 1750 at about 35,000, but then the limits of Mysore were different from what they are now. They did not include the region north-east of Bangalore, nor the Kingdom of Bednore, but on the other hand, Coimbatore was a part of it and probably the bulk of those Catholics belonged to the Coimbatore District. Yet the Telugu Mission may have probably made up for it, so that we can accept that total as being approximately the number of Christians in the middle of the 18th century in what now forms the Mysore State.

In 1755, there were 13 Portuguese Jesuit Missionaries in the Kanarese Mission and about the same number of French Missionaries in the Telugu Mission.

The progress of the Mission received a severe check from the suppression of the Jesuits in 1759 in Portugal and in 1773 all over Europe, which stopped the supply of missionaries and from the fanatical persecution of Tipu, who was determined, if possible, to extirpate Christianity from his dominions. By his orders, almost all the churches and chapels were razed to the ground, with two remarkable exceptions. One, a small chapel at Grama near Hassan, which was preserved by a Muhammadan Officer, and the other, that in the fort of Seringapatam, which was protected by the Native Christian troops under their Commander Surappa.

For a few years, Indian priests sent from Goa were in charge of the few Christians who remained. In 1777, the Holy See entrusted the care of the Karnatic Mission, with headquarters at Pondicherry, to the Society of the Foreign Missions of Paris, and Mysore, including both Kanarese and Telugu Christians, became a part of that Mission. On the fall of Tipu, in 1799, a member of that Society, the famous Abbè Dubois, was sent to Seringapatam where he was received well by Colonel Wellesley. He remained assisted by four Goanese priests in charge of all Christians in Mysore. It has been said that this remarkable man had escaped from one of the fusillades of the French Revolution and sought refuge in India, but this is incorrect. Abbè Dubois left Paris on the 19th January 1792, one year before the massacres of the French Revolution began. On entering on Mission work, he resolved to follow the example illustriously set by De Nobilli and Beschi, of adopting the Indian costume and accommodating himself to the customs and modes of life of the country. "During the long period," he states, "that I remained amongst the Indians, I made it my constant rule to live as they did, conforming exactly in all things to their manners, to their style of living and clothing, and even to most of their prejudices. In this way, I became quite familiar with the various tribes that compose the Indian nation, and acquired the confidence of those whose aid was most necessary for the purpose of my work." The influence he thus acquired is testified to by Major (afterwards Colonel) Wilks, who says:—"Of the respect which his irreproachable conduct inspires, it may be sufficient to state that, when travelling, on his approach to a village, the house of a Brahman is uniformly cleared for his reception, without interference and generally without communication to the officers of Government—a spontaneous mark of deference and respect."

He was the founder of the Church in Mysore, and of the Christian agricultural community of Settihalli near Hassan. He laboured in Mysore for twenty-two years. He wrote a well-known work on *The Customs, Institutions and Ceremonies of the People of India*, the manuscript of which was purchased by the British Government. He also introduced vaccination into the State. From a list written in his own hand and style and preserved, we find that during eighteen months in 1803-1804 he vaccinated 25,432 persons. He left India in 1823, the Government paying his passage and giving him a pension. On his return to France, he became the Superior of the Society of Foreign Missions in Paris, and died universally respected in 1848.

Mysore remained a part of the Karnatic Mission till 1844, when it was erected into a separate Vicariate Apostolic including Coorg and Wynād, the Hosur Taluk and Kollegal, with headquarters at Bangalore and was governed by Vicars Apostolic assisted by European Priests, all members of the Society of Foreign Missions, and Indian Clergy.

In 1887, the Hierarchy was proclaimed in India and the countries above mentioned were erected into a Bishopric, under the title of the Diocese of Mysore, the headquarters remaining at Bangalore as before.

There are, in Bangalore, a Cathedral for Europeans and Anglo-Indians and five churches mostly for Indians. The out-stations for the Diocese are divided into sixteen districts, of which eleven are in the Mysore State, the latter under the ministration of between twenty and thirty European priests appointed by the Society of Foreign Missions in Paris and several Indian priests.

There are in the Mysore Diocese, 95 schools for both girls and boys with 6,260 pupils. The most important institution for boys in Bangalore is the St. Joseph's College, which is divided into the European and Indian

sections and teaches up to the B.A. Degree. The chief educational institution for girls is the Sacred Heart's College, also in Bangalore, teaching up to the Intermediate standard.

There are at present one Bishop, styled "Bishop of Mysore," with his headquarters at Bangalore, 50 European priests, 2 Anglo-Indian priests and 18 Indian priests in the whole Diocese.

The religious communities of the men are the Brothers of the Immaculate Conception, and the Brothers of St. Gabriel, both engaged in educational work in Bangalore.

The religious communities of women are :—

(i) The Nuns of the Good Shepherd with headquarters in the Convent in Bangalore, and branches in St. Martha's Hospital and in Mysore.

(ii) The Magdalenes under the direction of the Nuns of the Good Shepherd.

(iii) The Sisters of St. Joseph's of Tarbes at Cleveland Town, Bangalore, with branches at Bowring Hospital Champion Reefs, and Mercara.

(iv) The Little Sisters of the Poor, Home for the Aged, Bangalore.

(v) The Little Catechists of Mary in Bangalore City.

(vi) There are also Indian Sisters attached to the Convents of the Good Shepherd and of St. Joseph and a separate Order at Settihalli near Hassan.

Agricultural Farms with villages populated chiefly by family orphans have been established at Siluvepura, Nelamangala Taluk and Mariapura, Kankanhalli Taluk. Over 1,500 orphans, both boys and girls, are supported by the Mission. The largest Mission Orphanage is St. Patrick's Orphanage, Bangalore, with over 100 inmates, all Europeans or Anglo-Indians. The total, Catholic population of the Mysore Diocese in 1921 was 52,000, of whom nearly 3 per cent were Europeans and 8 per cent Anglo-Indians, the remainder being Indians.

The Roman Catholic Diocese of Mysore can boast of splendid buildings, more especially in Bangalore. Among these, we may mention St. Patrick's Cathedral, built by the late Rev. Father A. M. Tabard and consecrated in 1899, the Convent of the Good Shepherd, the St. Joseph's College, and St. Martha's Hospital in the City proper. The members of the Mission have always been on the most friendly terms with the Mysore Royal Family. The first Vicar Apostolic Dr. S. Chanbonneur was an intimate friend of His Highness Krishnaraja Wadiyar III, and in our own days the Rev. Father A. M. Tabard, M.A., M.R.A.S., M.B.E., was decorated by His Highness Sri Krishnaraja Wadiyar IV in the order of the *Ganda Bherunda* with the title of *Rājasabhābhūshana*, as an acknowledgment of services rendered to the State in founding the Mythic Society.

The London Mission.

The first Protestant Mission to the Kanarese people was established at Bellary by the London Missionary Society. Thence in 1820, operations were commenced in Bangalore, and in 1839, extended to Mysore; but in 1850, the latter station was given up. From the commencement, the efforts of the Mission have been devoted to public preaching, education and literary work.

By agreement with other Missions, the District over which organized work is carried by the London Mission has since the eighties been confined, within the Mysore State, to the strip of country extending north and south between Bangalore and Kolar. In this area, the Mission has two head stations, Bangalore and Chikballapur, a number of out-stations with resident evangelists; and schools for boys and girls, containing some 2,000 pupils. A third head station is at Hosur, just outside the limits of the State.

For the benefit of the Indian Christian community, the Mission has in Bangalore two churches (Kanarese

and Tamil) with Indian Pastors, but now connected with the South Indian United Church; a Boarding Home for boys, originally established in 1825 and continuously maintained since 1877; and a similar home for girls, also commenced in 1825 but continuously maintained since 1842. A Theological Seminary for the training of Preachers was carried on with one or two intervals from the early years of the Mission until 1910, when it was merged in the United Theological College of South India and Ceylon, for which permanent premises were opened in Bangalore in 1913. A Union Kanarese Seminary (of the London and Wesleyan Missions), opened in 1916, is located at Tumkur.

Of educational institutions for boys, the principal is the High School in Bangalore, established in 1847. It contains about 600 pupils, and educates up to the Entrance Examination of the University. Its hall, from the time of its erection in 1879, has been much used for public lectures to the English speaking Indian community. The name of Rev. T. E. Slater (1883-1904) is well known in this connection.

Female education is especially indebted to ladies of this Mission (Mrs. Sewell and Mrs. Rice) who, in the face of many difficulties opened and conducted the first schools for Indian girls in this State in 1840. The Christian girls of the Boarding School were from an early period taught English as well as the Vernacular, and were long in advance of the general standard of Female Education in the State. Out of this institution has grown a High School for girls, open, since 1904, to girls of all classes, containing now 170 pupils.

Chikballapur was made a head station of the Mission in 1891. In February 1913, a well-equipped General Hospital, called the Wardlaw Memorial Hospital, with 60 beds, was opened there, by the Mission. Dr. T. V. Campbell and Dr. J. Winterbotham carried on the work

of the Hospital until their retirement. It is now under the medical superintendence of Dr. T. T. Thomson.

Some mention of the literary work done by the members of the Mission may be mentioned here. Rev. W. Reeves compiled the earliest Karnataka-English and English-Karnataka Dictionaries. The earliest complete version of the Bible in Kanarese was made by Mr. Reeves and Mr. Hands of this Mission. It was for this that Kanarese type was first cast under the direction of Mr. Hands. Rev. Benjamin Rice and Colin Campbell had a prominent share in a later translation, completed in 1859; and Rev. E. P. Rice was chief reviser of the still more recent version of the *New Testament* and *Pentateuch* made by a Committee of Missionaries of various Missions. The revision of the whole Bible is now (1924) practically complete. Rev. Benjamin Rice was the first writer of modern school books in the Kannada language and thus prepared the way for the large educational literature which has since arisen. He also edited the earliest periodical in the language, an Anglo-Kannada Magazine entitled *Arunodaya* (1861-67).

The Wesleyan Mission.

The Wesleyan Mission commenced its work in the Mysore country in 1821; but for many years, the Missionaries laboured only among the Tamil people of the Cantonment of Bangalore. The Kanarese Mission was begun in Bangalore, in 1835. The following year, a lengthened tour through Mysore and Coorg was undertaken by two of the Missionaries (Revs. Hodson and Franklin) and suitable stations were selected. Gubbi was made the residence of a Missionary in 1837, and Christian preachers regularly visited a considerable number of populous villages in the neighbourhood. In 1839, work was begun in the City of Mysore and gradually other towns were occupied and made the centres of organized efforts.

The Mission now (1923) employs 18 European Missionaries, 18 Women Missionaries (of whom 3 are Doctors, 3 are Nurses), 11 Indian Ministers, 50 Evangelists and 30 Bible-women. The Christian community numbers 7,251. The Mission maintains two Collegiate High Schools for boys, 2 Normal Training Institutions—one for men and one for women—70 Vernacular and Anglo-Vernacular Boys' Schools, 1 High School and 40 Vernacular and A.-V. Schools for girls, 1 Orphanage for boys and 1 for girls, 1 Industrial School for boys and 1 Home for women. Four-hundred and fifty teachers of both sexes are employed and instruction is given to 6,863 boys and 3,878 girls.

Many of the Missionaries are employed almost daily in preaching in the open air, as well as, on certain days, in chapels and school rooms. Others are engaged in schools. The educational operations of the Mission have been attended with much success, and until the formation of the Government Educational Department in 1857, the English instruction of Indian youth was entirely in their hands. An institution at Bangalore, established in 1836, was made a first class institution from 1851, and this High School with the one established at Mysore in 1854, are still carried on, teaching up to the University Entrance standard. Hardwicke College was established at Mysore in 1898 and is for the sons of Indian Christians.

To the printing establishment of the Mission, set up at Bangalore in 1840, the Kanarese people are much indebted. Here in 1848, were perfected by the Rev. J. Garret and T. Hodson, in conjunction with Mr. Watt, a type-founder in England, a variety of improvements in Kanarese type, resulting in a great saving of time and labour, and by the introduction of space between the words, promoting facility in reading. A Kanarese translation of the *Bhagavad Gīta* was printed in the new type,

and subsequently a portable edition of Reeves' *Kanarese-English Dictionary*, edited by the Rev. D. Sanderson of this Mission. The Kanarese Bible, in the new translation of which this gentleman took an important share, and a great number of other useful publications, issued from this Press. In 1872, the Mission disposed of the establishment to a private person. In 1890, a Press was again erected in Mysore, which has, under European management, greatly developed. From it issues, a monthly periodical called the *Harvest Field*, a Vernacular weekly paper called *Vrittanta Patrike*, which has a wide circulation, and many other publications.

The Mission has erected fully equipped hospitals for women and children in Mysore and Hassan. Each is under the charge of a European Woman-Doctor and each has a European nurse on the Staff. Another hospital is being erected in the Shimoga District for the benefit of the women and children of the Malnād.

Other Churches.

The Church of England is represented by three Chaplains, one other Clergyman, and one S. P. G. Missionary in Bangalore, and one Chaplain at Mysore, all under the Bishop of Madras. Their work lies principally among the Military and the European residents, but the Chaplains in Bangalore visit the Remount Depôt at Hosur, the Railway officials at Arsikere, and Europeans at the Kolar Gold Fields, while the Chaplain of Mysore makes periodical tours to Coorg and important places in the planting districts. The number of churches on the establishment is six, and the number of persons returned in the Census of 1921 as belonging to the Church of England is 7,500, of whom nearly 6,600 are Europeans and Anglo-Indians. There are large schools, the principal being Bishop Cotton's School for boys and girls at Bangalore, and an Orphanage.

The Church of Scotland has a Kirk and good schools at Bangalore, under the care of a Chaplain, who also visits Coorg once a year.

Since 1880, two American Methodist Episcopal Churches have been established in Bangalore, chiefly for the Anglo-Indian and Eurasian population, and the Baldwin Schools for boys and girls are important institutions maintained by this Mission. There is also an Orphanage at Kolar.

The Church of England Zenana Mission has been at work for several years at Bangalore and the ladies belonging to it visit principally among Mussalman families. A large hospital for women has lately been erected in connection with the Mission.

There are also two small communities of Baptists and a Leipzig Lutheran Mission in Bangalore, and some Brethren in Malavalli.

BIBLIOGRAPHY.

LEWIS RICE.—Mysore Gazetteer, Vol. I, 1897.
H. V. NANJUNDAYYA.—Mysore Ethnographic Survey Bulletins.
SIR EDWARD GAIT.—Report on the Census of India, 1911.
V. R. THYAGARAJA IYER.—Reports on the Census of Mysore, 1911 and 1921.
MR. H. K. BEAUCHAMP AND ABBE DUBOIS.—Hindu Manners and Customs.
BISHOP WHITEHEAD.—Village Deities in Southern India.
C. P. TIELE.—Outlines of the History of Religions.
BARTH.—Religions of India.
E. W. HOPKINS.—History of Religions.
MONIER WILLIAMS.—Brahmanism and Hinduism; and Indian Wisdom.
T. W. RHYS DAVIDS.—Buddhist India.
SIR H. H. RISLEY.—People of India.
MAX MÜLLER.—Six Systems of Indian Philosophy.
SIR ALFRED LYALL.—Asiatic Studies.
PAUL DEUSSEN.—Des System Des Vedanta.
A. A. MACDONNELL.—Sanskrit Literature.
B. A. KEITH.—Sankhya System.
G. THIBAUT.—Vedanta Sutras: Vols. XXXIV and XLVIII in the *Sacred Books of the East*.
SIR R. G. BHANDARKAR.—Vaishnavism, Saivism, etc.
HASTINGS.—Encyclopædia of Religion and Ethics.
LEWIS RICE.—Mysore and Coorg from the Inscriptions.
J. N. FARQUHAR.—Modern Religious Movements in India.
V. RAJAGOPALACHAR.—Vaishnavite Reformers in India.
C. R. PADMANABHACHAR.—Life and Teachings of Sri Madhva.
C. N. KRISHNASWAMY IYER.—Sri Madhvacharya.
S. KRISHNASWAMY IYENGAR.—Ramanujacharya.
J. M. RODWELL.—The Koran in "Everyman's Library."
R. E. HUME.—The World's Living Religions.
R. A. NICHOLSON.—The Idea of Personality in Sufism.
E. P. RICE.—Kanarese Literature.
SYED AMIR ALI.—Spirit of Islam.
Mysore Muzrai Manual.

Also various articles in the *Journal of the Royal Asiatic Society, London; Journal of the Bombay Branch, R. A. S.*; *Bangalore Mythic Society's Quarterly Journal*; *Epigraphia Carnatica; Epigraphia Indica*; *Indian Review*; *Madras Christian College Magazine*; *Reports of the Madras Government Epigraphist and the Director of Archæology in Mysore.*

CHAPTER IX.

POPULATION.

Composition of the People of the State.

THERE is evidence to believe that the Mysore State has been populated from time immemorial. Of the ethnic elements of its population, a detailed account will be found in Chapter VI *ante* (*Ethnology and Caste*). Broadly speaking, the present population of the State may be described as predominantly Hindu, the strength of this community being about sixteen times that of the Muhammadan, which is the next largest in numbers. The Muhammadans themselves are about five times as many as the Christians, who are numerically the next strongest section of the population. Following the terminology of Chapter VI, among the Hindus are to be found representatives of the Pre-Dravidian, the Dravidian and the Aryan races. Amongst the Muhammadans are descendants of persons who have been settled in the State from about the middle of the 17th century A.D. A large infusion of indigenous blood has contributed to their growth. The Christian population is mainly Indian, and its growth—during the past decade it has increased by nearly 25 per cent—shows its mixed character. The submerged population is large, forming nearly one-sixth of the total population of the State. These different communities inhabit an area which is not by any means negligible. The physical features and climatic condition of the State are different in its two natural Divisions, the Eastern and Western, corresponding to the *bayalnād* (plain country) and the *malnād* (hilly country). With these racial and other differences must be borne in mind the variations due to environment, which have been developed in the people during the ages which have

elapsed since their forbears first settled in the land. Constant warfare and the evil effects following it have also had their effect on the people. The differences between the people of the two Divisions are not racial, but due largely to differences in their environments. The result is that there is need for considering these two Divisions separately in regard to almost every matter—birth-rate, death-rate, education, etc. Then there are the differences in social customs, diet and general modes of living. Not only do the people of the two Divisions differ widely in these matters, but also the people of different parts of the same Division differ materially in regard to them. In the main features of their social life, however, the Hindus of the State as a whole agree. Marriage is universal among them and is celebrated at an early age. Widow re-marriage is discountenanced; and in social and religious affairs, they are subject to the same discipline. Muhammadans and Christians differ from Hindus widely in these matters. Among them adult marriage and widow-re-marriage are common. They are also more urban than their Hindu brethren, who are in the main rural in their surroundings. In view of these differences, generalizations are not only out of place but might prove entirely misleading. In what follows care has been taken to differentiate between the classes, castes, and natural divisions of the country, in order that the impression intended to be conveyed may be as near the actualities of the case as may be possible.

Area and population of the State.

The Mysore State contains 29,474·82 square miles of country and is, therefore, nearly equal in size to Scotland. The total area of Indian States and Agencies being 711,632 square miles, Mysore occupies about one-twenty-fourth part of it. India as a whole being about 1,805,332 square miles, Mysore is about one-sixtieth part of it. The population of the State (including the Civil and

Military Station, Bangalore) as recorded on 18th March 1921 was 5,978,892 persons, or about one-fifty-third of the total population of India. While in total area India is about 3 times that of Indian States and Agencies in it, the total population of India is about 4½ times that of Indian States and Agencies. Mysore occupying but one-sixtieth part of the total area of India supports about one-fifty-third of its total population. Indian States and Agencies as a whole occupy nearly a third of the total area of India but support less than one-fourth of its total population. The population of Mysore is distributed into 16,568 inhabited villages and 105 towns (including cities), the number of inhabited houses being 1,196,883, and the number of persons per square mile being 203. The mean density of population has steadily increased from 142 in 1881 to 203 in 1921. The following table gives in one conspectus the relative area and population of the State as compared with certain other Indian States, British Provinces and certain countries of Europe :—

Country	Area in square miles	Population	Mean Density
Bombay Presidency	186,994	26,701,148	143
Madras Presidency	143,852	42,794,155	297
Kashmir	84,258	3,320,518	39
Haidarabad	82,698	12,471,770	151
Mysore	29,475	5,978,892	203
Gwalior	26,383	3,195,476	121
Baroda	8,127	2,121,522	262
Travancore	7,625	4,006,062	525
Cochin	1,479	979,080	662
Ceylon	25,481	4,504,000	177
Scotland	30,406	4,882,000	161
Denmark	16,566	3,269,000	197

In the Eastern Division of the State the mean density works out to 233, while in the Western Division it is only 149. The normal rainfall in the Eastern Division is 28·8 inches against 56·6 inches or nearly double that

in the Western Division, the percentage of irrigated area being 9·2 in the Eastern Division against 28·8 in the Western. The percentage of total cultivable area in the Eastern Division is 48·7 against 39·3 in the Western, while the percentage of gross cultivated area under rice in the Eastern is 10·8 against 26 in the Western. The number of towns in the Eastern Division is 72 against 32 in the Western. There are, besides, differences between the population of the two Divisions in regard to longevity, civil condition, literacy, occupations, etc. Natural differences or artificial causes have led to the depopulation of certain portions of the Western Division, and Government have, since 1914, applied themselves to the task of improving conditions in it in a variety of ways.

If we take smaller areas than the two Divisions of the State, the difference in density becomes even more striking. Of the eight districts forming the State, the Mysore District has the largest area, followed by Chitaldrug, Tumkur, Shimoga, Kolar, Bangalore and Kadur in succession, Hassan taking the last place. As regards population, the Mysore District again takes the lead, Kadur being the least populous. The following table exhibits the ratio of the area and population of each district to the total area and population of the State:—

District or City	Percentage on total area of the State	Percentage on total population of the State
1. Bangalore Dt. (including Bangalore City)	10·44	15·2
2. Kolar Dt. (including Kolar Gold Fields)	10·79	13·3
3. Tumkur District	13·77	12·9
4. Mysore District (including Mysore City).	18·66	23·4
5. Chitaldrug District	14·11	9·6
6. Hassan District	9·04	9·8
7. Kadur District	9·47	5·6
8. Shimoga District	13·67	8·2
9. C. & M. Station, Bangalore	0·05	2·0
Total ...	100·00	100·00

The mean density of the districts together with the two Divisions is shown below :—

District or Division	Mean Density per sq. mile in 1921.
MYSORE STATE (INCLUDING C. & M. STATION, BANGALORE).	203
MYSORE STATE (EXCLUDING C. & M. STATION, BANGALORE).	199
EASTERN DIVISION	223
Bangalore District (including Bangalore City) ...	295
Kolar District (including K. G. F.)	249
Tumkur District	190
Mysore District (including Mysore City)	255
Chitaldrug District	138
WESTERN DIVISION	149
Hassan District	219
Kadur District	120
Shimoga District	122
C. & M. STATION, BANGALORE	8,784

Comparing the mean densities of the population in the eight districts with the mean density of the State, it will be seen that while four of the districts have a mean density higher, the other four have a mean density lower than that of the State. Those that have a higher density are the districts of Bangalore, Kolar, Mysore and Hassan, while those that have a lower density are Tumkur, Chitaldrug, Kadur and Shimoga. Among the districts, Bangalore District has the highest density, while Shimoga has the lowest. Taking the former together, we find that approximately 62 per cent of the population of the State congregate on about 49 per cent of its total area; taking the latter, we see that about 36·3 per cent of the population, congregate on slightly over 51 per cent of its area. Bangalore District easily takes the first place in regard to density owing to its high percentage of net cultivated and irrigated areas, which together support a large population, and to its excellent railway communications, only three taluks out of nine remaining yet to be connected by railway. It possesses a good and equable climate and a fertile soil, and is, besides, the headquarters

of the administration of the State. The factors of density in the case of the other districts are easy of analysis, the low density of Shimoga and Kadur districts being due to their containing large tracts of hills and forests and to the absence of any large industries in them beyond the nascent Iron Works at Bhadravati. In the Eastern Division, among the taluks, the Bangalore taluk (including Bangalore City) with a mean density of 629 persons per square mile has the highest density; and Heggaddevankote taluk has the least density with 94 to the square mile. In the Western Division, Arkalgud taluk has the highest density with 303 to the square mile and Nagar taluk has the lowest with 72 to the square mile.

Density depending to some extent on rainfall, other factors to be reckoned with are facilities for artificial irrigation, in order that a larger population may be sustained on the soil, the climatic features of the country and historical causes, including vicissitudes the tract has undergone and the nature of the Government prevailing. A settled Government leads to prosperity and favours the growth of population. In the wars of the 18th century, the Western districts of the State suffered heavily from the Mahratta depredations and there is reason to believe that while the Eastern Division rapidly recovered from the effects of the Mysore Wars, the Western has not. Add to this the effects of the famine of 1876-77 and the climatic and other conditions prevailing in the Western Division of the State and we have some indication of the causes which have retarded the growth of population in it. On the other hand, the heavy density of certain taluks, for example, Arkalgud (303), Yedatore (374), Seringapatam (422) and T.-Narsipur (422) is explained by the fact that they are traversed by the Cauvery river from end to end, the channels which take off from it sustaining a large population. The density or otherwise of a tract can be easily referred to its climate, soil, agricultural

and irrigational facilities, railway communication, industrial development, etc.

Variation in the population of the State.

The population recorded at the different Censuses and the rates of increase from decade to decade are shown below:—

Year of Census	Population	Increase (+) or Decrease (−) per cent	Year of Census	Population	Increase (+) or Decrease (−) per cent
1871	5,055,402	...	1901	5,539,399	+12·1
1881	4,186,188	−17·2	1911	5,806 193	+ 4·8
1891	4,943,604	+18·1	1921	5,978,892	+ 3·0

The net variation during the past fifty years has been an increase of population by 923,490 persons or by 18 per cent. During the same period the increase of population in England and Wales has been 67 per cent on a population of 22,712,266. On the basis of 18 per cent increase during a period of ten years, the annual rate may be set down at 18/50 or 0·36 per cent. This, however, is only the *average* rate expected, the real rate being dependent on the growth of the actual means of subsistence; otherwise, as Mayo Smith justly observes, "either such increase would be impossible or would be accompanied by a lower standard of well-being." The State has had no accession of territory since 1871. The increase in the natural population of the State (*i.e.*, the population claiming the State as its birth-place) during the past decade as distinguished from the actual population enumerated in it, is 2·4 per cent. The increase of 3 per cent in the actual population, small as it is, is not found uniformly distributed over the several Districts of the State as it varies from 0·6 per cent in Hassan District to 6·9 per cent in Bangalore District (including the City). There have also been decreases of 1·5 and 4·7 per cent in the population of the Kadur and the Shimoga Districts. In the Bangalore District itself, all the taluks, except Hoskote and Devanhalli, show increases ranging from 1 per cent in Dodballapur taluk to 9·76 in Kankanhalli taluk.

The decreases in Hoskote and Devanhalli taluks are attributed to the influenza epidemic of 1918-1919. The railway mileage in the district received an increase owing to the opening of the Bangalore-Chikballapur Light Railway during the last decade and there has been some industrial and commercial development in Bangalore City during the same period. In the Kolar District, the population (including Kolar Gold Fields) has increased by 1·6 per cent and six taluks have shared the augmentation. The decreases in the other taluks are traced to the influenza epidemic of 1918-19. The Light Railway from Bowringpet to Bangalore *via* Chikballapur, which was opened during the period, passes through the headquarters of Kolar, Srinivaspur, Chintamani, Sidlaghatta and Chikballapur taluks. The percentage of increase in the Tumkur District during the decade has been 5·1 per cent, which is shared by all the taluks, the increases varying from 1·9 in Tiptur taluk to 7·2 in Tumkur taluk. This district stands out pre-eminent among all the districts of the State by reason of the general increase of population in the district being spread over all the taluks. The population of the district is mainly agricultural, there being no big centres of industry like Bangalore City or Kolar Gold Fields. The population of the Mysore District including the City has risen by 4·6 per cent during the period. The growth is shared by all the taluks, except Hunsur and Heggaddevankote taluks and the Yelandur Jaghir, the increases ranging from 0·8 per cent in Nagamangala taluk to 14·7 per cent in the Seringapatam taluk. The Mysore-Arsikere Railway was opened for traffic during the period and passes through Mysore and Yedatore taluks. The decreases in the two taluks mentioned and the Jaghir have been set down mainly to the effects of the influenza outbreak of 1918-19. The population of the Chitaldrug District has increased by 1·8 per cent during the decade; but this increase is not

shared by the four taluks of Jagalur, Molakalmuru, Holalkere and Davangere. The four other taluks show an increase varying from 0·4 per cent in Hosdurga to 10·7 in Hiriyur. The Chikjajur-Chitaldrug Railway passing through Holalkere and Chitaldrug taluks was opened for traffic during the decade. The increase of population in the Hassan District has been nominal, being only 0·6 per cent during the decade. The increase is shared by only three taluks, the remaining four taluks showing a decrease ranging from 3·4 per cent in Belur to 0·5 per cent in Hole-Narsipur. The Mysore-Arsikere Railway passes through Hole-Narsipur, Hassan and Arsikere taluks. The population of Kadur District has declined by 1·5 per cent during the decade and the decrease is shared by two taluks (Chikmagalur and Tarikere) and the Sringeri Jaghir; each of the other three taluks show an increase of population ranging from 0·8 per cent in Mudgere to 2·5 in Koppa. The population of the Shimoga District has declined by 4·7 per cent during the period and this decrease is shared by all the taluks except Sagar, Nagar, and Tirthahalli. The Mysore Iron Works, which are of recent origin, are situated at Bhadravati in the Shimoga taluk. The following table shows the taluks in the State in which the population as returned in 1921 indicates a decline as compared with that of 1871:—

Taluk	Population in 1871	Population in 1921	Decrease (−)
1. Shimoga (including Kumsi)	92,935	91,155	− 1,780
2. Shikarpur Sub-Tk.	63,310	55,523	− 7,787
3. Sorab	67,073	58,901	− 8,172
4. Sagar	60,038	51,550	− 8,488
5. Nagar	42,605	38,180	− 4,425
6. Chikmagalur ...	84,566	80,329	− 4,237
7. Tarikere	67,978	65,221	− 2,757
8. Belur	73,125	71,152	− 1,923
9. Manjarabad ...	52,918	51,042	− 1,876
10. Sidlaghatta ...	71,388	67,934	− 3,454
11. Chikballapur ...	59,273	58,689	− 584
12. Hunsur	116,632	109,162	− 7,470

As regards the taluks of Sidlaghatta and Chikballapur, the loss of population during the famine of 1876-77 was so heavy that it will probably take another decade for them to regain their lost populations. In the case of Hunsur, the famine loss was made good in 1911, and the decline, therefore, seems temporary. The case of the other taluks is merged in the larger problem of the depopulation of the *Malnād* portion of the State. It may, however, be noted that in the three taluks of Shimoga, Shikarpur and Nagar, there was no loss of population by famine and that the decline began in 1911 in the case of the first two taluks and 1901 in the case of Nagar. As to Sagar taluk, not only has the famine losses not been made good but there has been observable almost a continuous decline. In the case of the other five taluks, the losses by famine were made good in the subsequent decades, and the decline, therefore, in regard to them should be set down to causes operating between 1911-1921.

"Dwelling" and occupied houses in the State.

At the Census of 1921 a "dwelling house" was defined as "a house or a portion thereof occupied by a single commensal family including its resident servants." Mills, factories, jails, schools, plantations containing house, *Mutts*, temples, shops, *Chattrams*, etc., were numbered in the same way as houses. The total number of occupied houses thus censused, in 1921, in the State was 1,196,883, which shows an increase of 38,879 houses over the number enumerated in 1911. There was in 1921 an increase in the average number of occupied houses per square mile in the State, from 39 in 1911 to 41 in 1921. The average has increased in the Eastern Division since 1881, but it has fallen in the Western Division since 1901. An analysis of the figures shows that the average has increased in most of the districts and cities of the Eastern Division while it has been either stationary or falling in

the districts of the Western Division. The average number of houses per square mile in each district corresponds roughly with the mean density of population in that district. The average number of persons in each house in the State is 5 and this average has been stationary since 1901. On a consideration of all the relevant census figures, it may be stated that the increase in the number of houses has on the whole kept pace with the increase in population during the past decade and that there is generally little or no overcrowding except in parts of the three cities—Bangalore City, Mysore City, and Civil & Military Station, Bangalore. The total number of occupied houses in the State (1,196,883) is approximately equal to the total number of married women in the State (1,196,121).

Towns and villages.

For Census purposes, the term "town" was in 1921 held to mean a Municipality of any size constituted as such by a Government notification. There were, at the 1921 Census, 104 Municipalities in the State (including the C. & M. Station, Bangalore); and of these, Bangalore City, Mysore City and the C. & M. Station, Bangalore, were classed as Cities. The Kolar Gold Fields tract which is not a Municipality, but is a Sanitary Board Area governed by a special Regulation, was also treated as a City at the last Census. The term "town" includes "cities" for statistical purposes. The increase in the number of Municipalities from 90 in 1911 to 104 in 1921 is due to the revision of the Municipal Regulation in 1918 and the consequent re-classification of municipal areas. Villages in the State, as elsewhere in Southern India, are inhabited mostly by land owners and tenants and form units of land revenue administration, while towns are generally under Municipal law and are, in many cases, centres of trade and industry. For every 1,000 persons in the State, 144 persons reside in towns.

In other words, about 14 persons for every 100 persons in the State live in towns. In Baroda the urban population forms 20·7 per cent of the total population, the corresponding percentages for Madras and Bombay Presidencies (including States, etc.) being 12·4 and 21·1 per cent, respectively. In England and Wales, 78 per cent of the population live in towns and cities, while in Scotland the urban population forms 75·4 per cent of the total population. Nearly half the total urban population in the State resides in towns with a population of 20,000 and over. The total number of urban places increased from 91 in 1911 to 105 in 1921, the total urban population similarly increasing by 24·3 per cent during the last decade. The average population for a town in the State is 8,216. The tendency towards urban aggregation has been most marked during the last decade with Bangalore City, Kolar Gold Fields and Mysore City. The prevalence of epidemics checked the growth of population in several of the towns of the State during the period 1911-1921. The smallness of the urban population in the State may be ascribed partly to want of diversity in the occupations of the people, agriculture being still their main occupation; partly to the past history of the country, which has not favoured the growth of towns save at the traditional seats of Government; and partly to its land-locked character and the absence of a convenient seaport anywhere near it. Densely populated countries do not always have large urban populations. India, Italy and Japan are densely populated, but they have relatively small urban populations. On the other hand, the United States and Australia are thinly populated and still have relatively large urban populations. Thus mere populousness does not lead to agglomeration. A more probable explanation is the organization of industry on a large scale. With the growth of industries in the State, therefore, is bound up

the growth of city life in it. Hindus in the State take less readily to towns than Jains, Muhammadans or Christians. The bulk of the Christians live in towns. For every 1,000 persons in the State, 121 Hindus, 311 Jains, 403 Muhammadans and 740 Christians live in towns. In other words, six times as many Christians, three and a half times as many Muhammadans, and two and a half times as many Jains as Hindus live in towns. In the Eastern Division of the State, for every 1,000 persons, 121 Hindus, 296 Jains, 373 Muhammadans and 724 Christians live in towns. In the Western, for every 1,000 persons, 75 Hindus, 273 Jains, 299 Muhammadans and 239 Christians live in towns. The Hindus mainly follow agricultural pursuits, whereas the Jains and Muhammadans follow trade and banking and as for Christians, their main occupations connect them with town life.

According to the returns of the Census of 1921, there are in the State, 16,568 inhabited villages, containing 1,021,704 occupied houses. Each inhabited village contains on the average about 62 occupied houses and about 309 persons. The name village, however, as used in this connection, refers to units of wholly different kinds. In some places, it means the rural area constituted into a village by the Revenue Survey Department, and includes not only the village site (or *gavtan*) but all hamlets (or *majares*) attached thereto as well as all lands belonging to it, excepting lands included in Municipal areas, whether such *gavtan*, hamlets or *majares* are denominated by any separate name or not, and whether they contain any houses or not. In other cases, it is a collection of houses bearing a separate name, *i.e.*, a residential village. The character of a village also varies in different parts of the State. Pretty generally villages are surrounded with stone walls or a thick hedge of thorn, a protection in former days against the attacks of the Mahratta cavalry; many appear to have had turrets

by way of still further defence. For the same reason, the entrance is often a flat-arched stone gateway, so constructed as to present an obstacle to a horseman. In the districts lying north-east from the Bababudans, villages commonly have the remains of a round tower in the middle, a somewhat picturesque feature, erected in former days as a place of retreat for the women and children in case of attack. The more important villages have a considerable fort of mud or stone, also the erection of former troublous times, when every *gauda* (headman of a village) aimed at being a *pālegar* and every *pālegar* at becoming independent. The fort is the quarter generally inhabited by the Brahmins, and usually contains the principal temple. The *pēte* or market, which invariably adjoins the fort at a greater or less distance beyond the walls, is the residence of the other castes. In certain other parts of the State, the houses are collected in a prominent or central portion of the village, waste and cultivated lands surrounding them on all sides. This is generally the case in the *maidān* districts. In the *malnād* districts, villages are often such only in name, being composed of scattered homesteads at various distances apart. Every large village, whether in the *maidān* or *malnād* districts, has ordinarily a temple, a school, an irrigation tank and a *chāvadi*. As regards distribution of the rural population in the State, it may be added that more than half of them live in small villages with a population of under 500.

Migration: (*a*) Immigration. (i) From Provinces of India.

According to the Census of 1921, it appears that 100,886 persons born in Mysore were enumerated in different parts of India and Burma. The number of persons who were born outside the State, but were enumerated in it was 314.531. Allowing some margin for the number of Mysore-born persons in other countries about which information is not available and for those in

Ceylon, etc., totalling 2,318 persons, the net addition to the population of the State on account of migration works out to 211,000. Of the 314,531 persons immigrant in the State, 309,850 are from Provinces and States in India. The composition of this figure shows the extremely limited nature of the volume of movement to a distance. In fact, it brings out the inherent dislike for change which characterizes the generality of the population of India. Of the 309,850 persons returned as born in India, but outside the State, 267,278 persons are from the neighbouring Presidency of Madras; 27,343 are from the adjoining Presidency of Bombay; 3,335 are from the Haidarabad State; 2,373 from Coorg; 2,971 from the Rajputana Agency; and 1,240 from the Bombay States. People from any one other birth-place are less than a thousand; and as few in some cases as 18 from Assam or 13 from Gwalior. The Presidency of Madras then accounts for 86·7 per cent of the total, Bombay for 8·8 per cent and Coorg for 0·8 per cent. These three, it should be noted, are Provinces contiguous with the State. The remainder of 4·2 per cent is easily accounted for; 1·1 per cent by Haidarabad; 1·0 per cent by Rajputana Agency; 2·1 per cent by all other States and Provinces put together. Of the nearly 237,000 people coming from the three contiguous Provinces of Madras, Bombay and Coorg, 208,000 come from contiguous parts of these Provinces, *i.e.*, from Coorg and those districts of Madras and Bombay which lie adjacent to the districts of the State. A large majority, therefore, of the persons who are immigrant in the State have come from the neighbouring districts of Madras and Bombay and from Coorg; a little more than a third from other districts of Madras and Bombay; and a little more than a seventh of this last figure is contributed by all the rest of India.

(ii) From beyond India.

The total number of persons born outside India and

enumerated in the State is about 4,700. A little more than 4,000 of these are from Europe. Three thousand eight hundred of these, again, are from the United Kingdom, the remainder being from other parts of Europe. All the countries of Asia beyond India contribute 459 persons. Africa gives 55 persons; America 77, and Australia and New Zealand, 36 persons. Of the immigrants from Europe, the vast majority, 3,164, are in the C. & M. Station, Bangalore. So too are 44 out of the 55 persons from Africa, 44 out of the 77 persons from America and 21 out of the 36 from Australasia. This is as might be expected, for, the Station has a contingent of European troops and is the headquarters of the Hon'ble the Resident in Mysore. The Kolar Gold Fields, where are a number of European employees in the Mines, accounts for 515 out of the 885 Europeans, 9 out of the 11 Africans, 5 out of 13 Australasians, and 7 out of 33 from America. The Kolar District, which has an American Mission stationed at Kolar town, accounts for 12 more of the Americans. The planting districts of Kadur and Hassan account for 53 and 36 Europeans each, while the Bangalore and the Mysore Cities, as trade centres, account for the majority of the other persons returned as born beyond India.

(iii) Into particular cities.

The Cities have proportionately larger numbers of immigrants than the rest of the State. Bangalore City, for instance, has an immigrant population of 34·5 per cent to 65·5 per cent of those born in the district, the Kolar Gold Fields 62·8 per cent to 37·2 per cent, Mysore City 16 per cent to 84 per cent and C. &. M. Station, Bangalore, 33·5 per cent to 66·5 per cent. The City with the least proportion of immigrants is Mysore, but even this is a larger population than is the case with any district. It is natural that the Kolar Gold Fields area should, as an industrial centre, have the largest numbers

of immigrants from outside the State. The City of Bangalore and the C. & M. Station are important centres of trade, the C. & M. Station being besides a Cantonment for British troops.

(iv) Into districts.

The following table gives the immigrant and district-born populations in the several districts in thousands:—

Districts	Immigrants	District-Born	Proportion of Immigrants to 100 Dt.-Born
Bangalore	42	746	6
Kolar	47	658	7
Tumkur	43	730	6
Mysore	25	1,294	2
Chitaldrug	43	531	8
Hassan	34	550	6
Kadur	54	280	19
Shimoga	53	439	12

The district with the largest proportion of immigrants is Kadur with 54,000 persons born outside and enumerated in the district to 280,000 born and enumerated in it. Shimoga comes next with 53,000 to 439,000, respectively, and Chitaldrug and Kolar thereafter. The place of Kolar is due to the influence of gold mines, which attracts labour of a varied kind. Then come Hassan, Tumkur and Bangalore Districts. Of the immigration into Chitaldrug District, part is due to the Vani Vilas Sagara area—the actual figures being 1,885 males and 1,654 females—and part to casual migration. Mysore District comes at the end with 25,000 born outside the district to 1,294,000 born in it.

(v) Inter-district.

Migration within the State between district and district does not call for any remark. It may, however, be added that there is a movement of a thousand or more persons generally only between contiguous districts, except in the case of Bangalore and Mysore, which

send to other districts too, and Kadur and Chitaldrug, which cannot send even to all contiguous districts. As between natural divisions, there is a balance of about 14,000 in favour of the Western Division, the Eastern giving to the Western 34,000 as against 20,000, which it receives from that Division. Much of this migration should be casual and the very large balance is due to the larger number of districts that form the Eastern Division. The Western Division has, however, not only this balance as compared with the Eastern, but owing to the paucity of its population and the large demand for labour on its coffee and areca gardens has a larger proportion of immigrants from all parts of India than the Eastern.

(*b*) Emigration.

From the figures received from the States and Provinces in India, it appears that, out of the emigrants from the Mysore State, the largest number is to be found in the adjoining Presidency of Madras. Madras, therefore, not only contributes the largest number of immigrants, but also takes the largest number of emigrants. Next comes the Presidency of Bombay, and then Coorg. Next in order come Haidarabad, Burma and the rest. The following is a statement of Mysore-born persons residing in countries beyond India:—

Straits Settlements	31
Federated Malay States	129
Unfederated Malay States	24
Kenya Colony	10
Ceylon	2,124

(*c*) Comparative Statistics.

Comparing, for each Indian Province, the number it has given to Mysore and the number it has taken from Mysore, it is found that the immigrants from Madras outnumber the emigrants to Madras by nearly 200,000; those from Bombay by about 13,000; those from Haidarabad

by 746, *i.e.*, less than 1,000; the immigrants from Coorg are fewer than emigrants to Coorg by about 8,000. Other figures are negligible. Of the 28 Provinces and States which send to or take from Mysore, 10 send less than they take and 14 send more than they take. As regards the Provinces in India beyond Mysore, the excess of immigration over emigration in 1921 was 202,840 as against 174,321. Immigrants into the State from these Provinces in 1921 totalled 300,610 as against 300,032 in 1911; and emigrants from Mysore State in 1921 aggregated 97,770 as against 125,711 in 1911.

Religion.

Of the total population of the State, about 91·66 per cent were returned as Hindus, 5·66 per cent as Muhammadans, 1·18 per cent as Christians, 1·05 as Animists, ·35 per cent as Jains and ·03 per cent as belonging to minor religions. The numerical figures, made up to the nearest thousands, are as follows :—

Total for all religions in the State ...	6,000,000
Hindu	5,482,000
Muhammadan	340,000
Christian	91,000
Animist	63,000
Jain	21,000
Minor religions	2,000

Among those professing the minor religions are included 1,319 Buddhists, 134 Sikhs, 60 Brahmos, 217 Parsis and 36 Jews, etc. In every 10,000 persons in the State, there are 9,168 Hindus, 570 Muhammadans, 119 Christians, 105 Animists, 35 Jains and 3 professing the minor religions. Of the last, Buddhism counts 2 and the others each less than 1 in 10,000.

Hindus.

Hinduism, with its nearly 5 millions of votaries, is the predominant religion of the State. It is professed in

one or other of its many forms by nine persons out of every ten; and it prevails almost everywhere in the State. The line of demarcation between it and Animism is rather thin, the one merging into the other almost imperceptibly. The proportion of Hindus has fallen since the Census of 1911. Indeed, it has fallen steadily from 1881. The figures for successive Censuses are given below:—

1881 ...	...	...	...	9,308,000
1891 ...	...	...	...	9,248,000
1901 ...	...	...	...	9,206,000
1911 ...	...	...	...	9,199,000
1921 ...	...	...	...	9,168,000

This decline has been explained on the basis that the Hindu population has been increasing at a comparatively slow rate owing mainly to its social customs, such as the prohibition of widow re-marriage and the countenancing of infant marriage, which tend to diminish their reproductive capacity as compared with those professing other creeds. It is possible that the losses sustained on account of conversions to Christianity and Muhammadanism are not fully covered by accretion from Animists. The famine of 1876-77 also affected more severely tracts inhabited by Hindus. Since that famine the Hindus have increased in round numbers by 1,585,000 or by 38·6 per cent. The increase was very marked in the decade 1881-1891, *i.e.*, in the decade immediately succeeding the famine; it was somewhat less in the second decade 1891-1901; much less in the third, and still less in the fourth, as will be perceived from the figures given below:—

Year			Population	Increase p.c.
1881	...	...	3,897,000	...
1891	...	...	4,572,000	17·3
1901	...	...	5,099,000	11·5
1911	...	...	5,341,000	4·7
1921	...	...	5,482,000	2·6

The above table shows that though the Hindus have increased at a less fast rate than those professing other religions, Hindus show an increase from decade to decade though in a decreasing degree. This decrease in the rate of growth of a population in successive periods after a famine has been observed elsewhere and has been stated to be the natural consequence of the fact that the population immediately after a famine is composed of a larger proportion of able-bodied persons of the reproductive ages than a normal population and that this proportion decreases as these persons grow older and also as each year adds more and more children to the population. The rate of increase during the period 1911-1921 would have been greater but for the pandemic of Influenza which raged in 1918. This may be compared with the percentage of increase from Census to Census for the several religions :—

Year	Population	Increase p.c
1881	4,186,000	...
1891	4,944,000	18·1
1901	5,539,000	12·1
1911	5,806,000	4·8
1921	5,979,000	3·0

Muhammadans.

The total number of Muhammadans in the State is 3,40,000 in round figures, or about a little over 1 per cent. They have increased from decade to decade :—

Year	Population	Increase p.c
1881	200,000	...
1891	253,000	26·2
1901	289,000	14·5
1911	314,000	8·6
1921	340,000	8·3

The rule regarding the rate of increase after a famine is neglected in the above figures. The total increase for

the forty years since 1881 has been, in round figures, 140,000 or 69·8 per cent, considerably larger than the 38·6 of the Hindus. The relatively higher rate of increase among Muhammadans is easily explained when it is remembered that they marry their girls later, their widows are allowed to re-marry, so that a larger proportion of their females of the child-bearing ages are married; their dietary is more nourishing; their loss from conversion to other religions negligible; and their gain from Hindus by accession though small, steady. Muhammadans are found somewhat less evenly distributed over the whole State. They are, for example, found in rather large numbers in proportion to the population in Shimoga District than elsewhere, the percentage in this district being 7·3 as against 3·26 and 3·01 of the Hassan and the Mysore Districts at the other end and the 6·9, 6·5, 5·4, 5·3 and 4·9 of the Kolar, Bangalore, Kadur, Chitaldrug and Tumkur Districts in the middle. The large proportion of Muhammadans in Shimoga District is due to the fact that it was the part of the State which was over-run by the Bijāpur Sultan in about 1637 A.D.

Christians.

The Christian community in the State is about 71,000 strong. It has been steadily increasing at a rate much larger than the Hindus, and larger even than the Muhammadans. The higher rate is doubtless mainly due to conversion. The increase during the last forty years (1881-1921) has been nearly 42,000 or 144·1 per cent. In other words, the Christians in the State were in 1921 nearly two and a half times as much as they were in 1887. The figures showing the increase per decade are as follows:—

Year	Population in thousands	Increase p. c.
1881	29	...
1891	38	30·4
1901	50	31·3
1911	60	19·5
1921	71	19·3

Of the total Christian population, 57,500 are Indians, 6,900 are Europeans and allied races, and about 6,800 are Anglo-Indians. In 1911, there were in all 60,000 Christians and they were thus distributed among the races:—Indians, about 46,000; Anglo-Indians, 5,700; Europeans and allied races, 7,400. The Indian Christians have thus increased from 46,000 in 1911 to 57,500 in 1921, *i.e.*, by about 25 per cent. Christians are found mostly in the Cities of the State, 8,500 out of the 11,500 of the increase among them during the past decade being set down to the Cities. As regards the districts, they are found in the largest numbers in the Bangalore District and in least numbers in Chitaldrug. The figures are as follows:—Bangalore District, 6,340; Kolar District, 2,320; Mysore District, 2,069; Chitaldrug District, 329; Hassan District, 4,195; Kadur District, 5,221 and Shimoga District, 3,305. From the denominational points of view, of the 71,000 Christians in the State, 52,000 are Roman Catholics; 7,400 belong to the Anglican communion; and 6,700, Methodist. Of the other sects returned, the Lutherans count 354 adherents, Presbyterians 303, South India United Church 226 and certain other denominations clubbed together under the head "Minor Protestant denominations," 217. The Roman Catholics are, therefore, by far the largest in numbers in the State. Among them, less than 1,500 are of European race, about 4,000 are Anglo-Indians and more than 46,000 are Indians. The Indian element, is therefore, predominant in the Catholic denomination. This is primarily due to the fact that Roman Catholicism has been largest in the Mysore field (*vide* Chapter VIII—Religion). The Europeans and Anglo-Indians form the bulk of the Anglican communion, being nearly 6,000 out of 7,500. The bulk of the Methodists are, however, Indians, being more than 5,800 out of a total of less than 6,700; so also the larger number of those who returned

hemselves as Baptists, minor Protestant denominations, tc. Lutherans and Congregationalists are nearly all ndians. The new denomination of the South India Jnited Church counts of its 226 persons, 19 persons of European and allied races, 11 of Anglo-Indians, 196 Indians, most of them resident in Bangalore City and Civil and Military Station, Bangalore and the remaining ew in Kolar Gold Fields.

Animists.

The Animists in the State number about 63,000. The numeration of Animists at the Censuses has neither been uniform nor strictly correct owing to the obvious difficulty of drawing a line as to where Hinduism ended and Animism commenced even as regards wholly Animistic tribes and castes. During the past twenty years, there has been, according to the Census returns of 1921, a falling off in the number of Animists in the State. Whether this is due to desertion in favour of Hinduism or absorption by it, it is difficult to say. The tendency for these tribes is to include themselves under the name of Hindus with whom, indeed, they have a great deal in common.

Jains.

The number of Jains returned at the Census of 1921 was, in round figures, 21,000. They have increased in the past forty years (1881-1921) by 92·7 per cent, which is a larger rate than that of either Hindus or Muhammadans and only about two-thirds of the Christians. The Jains in the State represent a past in which their forbears played no mean part, as much in the political as in the literary field. A larger population at one time claimed adherence to their religion and great kings and able generals professed it and propagated it in every part of the State. Mysore is one of the few corners of India in which Jains at present are found in a fairly compact body, following peaceful occupations and keeping up their ancient faith. Of the districts, Shimoga has the

largest number of them in proportion to the population, *viz.*, 6 in every 1,000. Kadur and Tumkur Districts show 4 in every 1,000 and Kolar nearly the same number. Chitaldrug and Mysore show less than 2 each and stand last. Bangalore and Hassan Districts each with 3 in every 1,000 stand between Kolar and Mysore. The comparatively large number in Shimoga is due to the existence there between 8th and 12th centuries A.D., of a Jain principality with its capital at what is now the village of Humcha. The rather large numbers found in the Kadur District should be traced to the same reason.

Minor religions.

The numbers belonging to the minor religions are inappreciable and call for little remark. A few facts about them may, however, be noted. The Sikhs who numbered 293 in 1911, were only 134 in 1921. The Brahmo population numbered 60 in 1921 as against 65 in 1911. The number of Parsis in the State in 1921 were 217 as against 101 in 1911; and Jews numbered 36 in 1921. Buddhism claimed in 1921 as adherents, 1,319 persons as against 5 in 1891, 10 in 1901 and 622 in 1911. The increase is stated to be due to the activities of a Buddhist mission which has been working for some time in the Civil and Military Station, Bangalore. The figure for 1921 shows that it is not dormant.

Age.

Though the statistics of age, as compiled from the Census returns, are admittedly defective, there is no better material for computing birth and death rates and for comparing the fecundity and longevity of different communities as the registration of vital statistics in the State—as elsewhere in India—is still imperfect. For purposes of comparison the Census statistics are not wholly worthless as mistakes tend to cancel one another, and the nature and proportion of errors is fairly constant from Census to Census, as can be easily proved from the

published Reports. Taking the returns for 1921, it is found that of the total population of the State about one-eighth are below the age of 5 years, and that between 5-10 years, the number is nearly one-seventh. The age period 10-15 includes a little less than one-eighth. For all ages up to 15, the proportion is 38·2 per cent and between the ages of 15-50, it is 48·9 per cent of the whole. Those who are 50 and over constitute 12·9 per cent of the entire population. As between the sexes, males outnumber females in all age-periods, except 0-5, 5-10, and 20-25, and females are considerably fewer in age-periods 10-15 and 15-20. The causes for this disparity are dealt with below. Among Hindus, 37·4 per cent are below the age of 15, 39·7 per cent are between the ages of 15-40 and those aged 40 and over form 22·9 per cent. The proportion of children under 5 years of age is higher in this religion than among the Jains, who have the lowest proportion, but it is less than in the other religions. The aged, *i.e.*, those who are 60 and over, are proportionately more numerous among the Hindus than among the rest. Among Muhammadans, those below 15 years of age form 39·1 per cent of the male population, 39·6 per cent are between the ages of 15 and 40 and those aged 40 and over constitute 21·8 per cent. The proportion of children under 5 years of age is slightly less than among Christians but is better than among Jains as well as Hindus. The aged are slightly less in proportion than among Hindus but are better than in the remaining religions. Among Christians, 36·3 per cent of males are below 15 years of age, 43·9 per cent are between the ages 15 and 40 and 19·8 per cent are aged 40 and over. The proportion of children under 5 years is inferior only to the proportion among Animists. The middle-aged are proportionately more numerous than among Hindus and Muhammadans, because the proportion of those in later years is extremely

small among the European community, evidently due to the practice of returning to England after active life. Among Jains 32·9 per cent are below 15 years of age; the proportion of those in age-period 15-40 is the highest in all religions in the State, *viz.*, 45·3 per cent; those aged 40 and over form 21·8 per cent. The proportion of children under 5 years is very low, in fact, it is the lowest in all religions. So also is the proportion of those aged 60 and over, if Christians are excluded. Trade and commerce have attracted a large number of Jains from their birth-places outside the State and they are generally temporary settlers who have left their dependants behind. The proportion of those in the non-productive ages at either extremity of life is, therefore, low. Among Animists, the proportion of those below 15 years of age is so high as 42·8 per cent, between 15-40 years there are 36·7 per cent of the total population and those aged 40 and over form 20·5 per cent. The proportion of children under 5 years of age is the highest in the State and shows that the Animist in Mysore, as elsewhere in India, is the most prolific. The proportion of those aged 60 and over is not so low as in the case of Jains and Christians but is lower than among Muhammadans and Hindus.

Taking the distribution of age by castes, it may be noted that children under 5 years are most numerous among the Animist Lambanis, there being 143 children per 1,000 of the population. The next is the Indian Christian community with 134 children per mille. Among the Hindu castes, the Tigalas (134) are more prolific than others. Next in order are the Madiga (127), the Brahmans (122), Neygi (120), and the Vodda (119) castes. Low proportions returned are by the Banajiga caste (107), Lingayat and Panchala (110), and Beda (113) per mille. Among Muhammadans, Pathans have 131 children per 1,000 of the population. The Sheikhs

and the Saiyids follow them with 127 and 125 per mille, respectively. Taking the effective ages of 15 to 40, it is found that the highest proportion, 446 per mille, is returned in the Idiga caste among the Hindus. The proportion among the Brahman, the Holeya, and the Lingayat castes is the same, *viz.*, 404. The Tigala has the lowest proportion, *viz.*, 373 per mille. Among the Muhammadans, the Sheikhs have the highest proportion and the Pathans the lowest. In the age group 40 and over, the highest proportion (250 per mille) is returned by the Golla caste. Next come the Banajigas with 247. The lowest proportion is returned by the Idigas among Hindus, being 196 per mille. The proportion in the three Muhammadan groups is almost equal (Pathan, 192; Saiyid, 194, and Sheikh, 190). The proportion among the Indian Christians is the lowest of all, being 171.

The " mean age " of the Census returns is the average age of the persons at the time of enumeration. It largely depends on the proportion of the young and the old, which again is determined by birth and death-rates. Taking the State as a whole, the mean age for males is estimated at 25·7 years and for females 24·9. The mean age for the total population (both sexes) is thus 25·3 years. The death-rate is placed at 37·5 per mille per annum and the birth-rate at 43·5 per mille. These figures are admittedly mere approximations though probably they are nearer the mark than the rates calculated from reported vital statistics, which are demonstrably imperfect and inaccurate as well. The mean age is lower in the Western than in the Eastern Division. Among the main religions, it is lowest among Animists and highest among Jains.

As regards fecundity, taking the State as a whole, it is found that there are 174 children under 10 to 100 married females aged 15-40. In the Western Division,

the proportion is greater than in the Eastern, the figures being 178 and 173, respectively. Though for the State and the two divisions, it has improved since 1911, when it stood for both the State and the Eastern Division at 163 and at 164 for the Western Division, it has not reached the high level of 1901, when the ratio for the State was 193 and for the Eastern and Western Divisions 196 and 187, respectively. As between the different religions, the highest ratio is among the Animists, there being among them 197 children for 100 married females. The Muhammadans are more prolific than the Hindus, the ratio for the former being 189 and for the latter 172, which is slightly less than the ratio for the whole State for all religions. As to longevity, in the whole State, there are 16 persons in either sex aged 60 and over to 100 adults aged 15-40. In the Eastern Division, the people seem to have a longer average span of life than in the Western, for there are in the former, according to the Census returns of 1921, 18 males and 17 females aged 60 and over for every 100 adults against 13 males and 12 females in the latter. According to districts, Kolar has the highest proportion of the aged, the figures being 23 for males and 21 for females. Next in order are Bangalore, Tumkur, Mysore and Chitaldrug Districts in the Eastern Division. The lowest proportion of the aged is in the Kadur and Shimoga Districts. The very low proportion of the aged in the Kolar Gold Fields (20 for males and 18 for females) is due to the fact that the mining industry in that place affords work mainly for adults.

Sex.

In most European countries the females are found to be in excess of males; in Mysore, as in India generally, the converse is the case, the males outnumbering the females. In 1921, out of a total population of 5,978,892 persons enumerated in the State, 3,047,117 were males

and 2,931,775 females. The number of females is thus less than that of males and their proportion per 1,000 males is 962. This is better than the All-India proportion, which is only 945 per mille. In most of the Provinces and States in India, males outnumber females, very low proportions of females being 830 and 820 per mille in the Punjab and in the Punjab States, respectively. In Delhi it is 733 per mille and in the Andamans and Nicobars it is as low as 303 per mille. It is only in the Madras Presidency, Central Provinces, Bihar and Orissa, and the States attached thereto, and in the State of Manipur that there is a preponderance of females. The highest proportion is to be found in Manipur, where it is 1,041 per mille. In the Central Provinces, the sexes are almost in equal proportions, the figures being 1,001 females to 1,000 males. In the Madras Presidency and in the Province of Bihar and Orissa, the proportion is 1,028 per mille.

The general deficiency of females in the State is shared by its Divisions and districts as well. The proportion is greater in the Eastern than in the Western Division. In the former it is 968 females per thousand males, while in the latter it is 948. The effect of immigration is generally to reduce the proportion of females in the general population and this is appreciable in the "City" areas, the figures for three of which—Bangalore, Mysore and Kolar Gold Fields—are included in the Eastern Division. Exclusive of the "City" population, the proportion of females in the Eastern Division is much higher, namely, 975 per mille. The difference between the proportion of females in the population of the two Divisions is due to the inclusion in the Eastern Division of the Mysore District which has a large population with an excess of females, and to the other districts having a fairly high proportion of females, while Kadur and Shimoga Districts, which are included in the Western Division,

have a very low proportion of females. It is only in the Mysore District that females slightly outnumber males, their proportion being 1,002 per mille of males. In all other districts females are less in number than males. The lowest proportion is to be found in the Kadur District, where it is only 910 per mille, closely followed by Shimoga District with 915 per mille. The sexes are almost in equal proportions in the Hassan District, there being 998 females per 1,000 males. The proportion in other districts in order is: Bangalore 972, Kolar 971, Tumkur 958 and Chitaldrug 947 females to 1,000 males. The taluks reveal interesting variations. In the taluks in the Western half of the Mysore District, females outnumber males, their ratio per 1,000 males varying from 1,004 in the Yedatore to 1,053 in the Nagamangala taluk. The same feature is noticeable in all the taluks of the Hassan District, except Manjarabad, Belur and Arsikere taluks, the maximum ratio of 1,070 per mille being in the Channarayapatna taluk. The lowest population of females in the State, *viz.*, 780 per mille is in the Koppa taluk of the Kadur District. Excepting Kunigal taluk, where the sexes are in equal proportions, and Turuvekere sub-taluk in the Tumkur District, the remaining taluks in that and other districts show an excess of males. It is found on close examination that as migration from outside the State has no appreciable effect on the sex proportion of the taluks showing an excess of females over males, such excess has to be set down to the higher proportion of females in the district-born population. The deficiency in the number of females in the Kadur and Shimoga District taluks—they range from 780 to 833 per 1,000 males—has to be attributed to immigration from outside the State; the proportion is fairly high in the district-born population.

In all the City areas and in the Civil and Military Station, Bangalore, females are in greater defect than in

the general population. This disproportion is very marked in the Kolar District, where it is only 846 per mille. For the remaining places, the figures are:— Bangalore City, 855; Civil and Military Station, Bangalore, 932; and Mysore City, 917 per mille. A consideration of the immigration figures shows that the lower proportion of females in these places is partially at least due to the immigrant population with a very low proportion of females forming an appreciable part of the enumerated population. Excluding the City areas, the highest proportion of females in the urban population is to be found in the Mysore District and the lowest in that of the Kadur District. As regards rural population, Hassan and Mysore Districts have a slight excess of females over males. It is only the "City" areas that are really urban in character and not the other places in the districts classified as such for municipal purposes. These differ but little from the rural country surrounding them. In the population of the City areas, the population of females is considerably lower than the proportion in the total population of the State, whereas this is exceeded by the proportion of females in the urban population of the Bangalore, Kolar and Mysore Districts. In the case of the Mysore District, the proportion of females in the urban population is greater than the proportion in the rural population as a whole. There are, besides, urban places in which females exceed males and some of them are situated in tracts which have a preponderance of females. Among these are Magadi (1,032 females per 1,000 males), Talkad (1,019), Nagamangala (1,002), Krishnarajapet (1,025) and Periyapatna (1,026). It may, therefore, be inferred that the variation in the relative proportion of the sexes in the urban population of the districts is not so much due to variations in the urban features as to factors affecting the sex constitution of the locality.

In the natural population of the State, as distinguished from the actual population, the proportion is more favourable to females, the proportion being 972 females to 1,000 males. The reason for this is to be found in the fact that migrants generally leave their women-folk at home, so that while immigration tends to lower the population of females in a given population, emigration swells it. In the Mysore State, immigrants outnumber emigrants very largely and hence the proportion of females in the actual population is less than in the natural.

As the population of the State is mainly Hindu, the proportion of females to males among Hindus closely follows that for all religions. In all the other religions it is lower than the latter, the greatest defect being among the Jains, the proportion being only 826 per mille. Among Animists, the proportion is 961 per mille of males, which is nearly equal to the all-religion proportion. Among Christians, it is 928 per mille. The Muhammadan population of 872 per mille is better than that among Jains. The lower proportion in these religions is due largely to immigration.

Among Hindus, in no caste does the number of females exceed that of males. The highest proportion of females is to be found in the Neygi caste in which the sexes are almost equal, 999 females to 1,000 males. Lingayats have 990 females to 1,000 males; Bestas, 988; Vokkaligas, 986; Kurubas 981; and Upparas, 975. In other castes the proportion of females is less than 969, the Hindu proportion. The lowest proportion is to be found among Idigas, with 918 females per mille followed by Mahrattas, 919 and Vaisyas, 922. The Brahman proportion is 947 per mille. Viewed by age-periods, the proportion of females partakes of the characteristic of the general proportion of Hindus, *i.e.*, in the age-periods 0-5 and 5-12, there is a preponderance of females over males,

while in the next age-period 12-15, the number of females falls considerably below the number of males. The proportion of females increases with each succeeding age-period, but the improvement is not so much as to convert the defect of females into excess except in the case of Bestas (1,034) and Tigalas (1,018) in age-period 20-40, Vaisya (1,027) in age-period 15-20, and Lingayat (1,012) in age-period 40 and over. As regards Muhammadans, the Sheikhs have a better proportion of females (908 per mille as against 893 of Pathan and 877 of Saiyid) than the rest. Taking all the religions, in the ages of infancy, *viz.*, 0-5, the number of females is uniformly more than the number of males. This preponderance is kept up in the succeeding age-period 5-10. In the age-periods 10-15 and 15-20, the excess of females in the preceding age-periods turns into a deficiency. In age-period 20-25, females again outnumber males. From age-period 25-30 upwards females are in defect, the lowest proportion being in the age-period 30-40. This marked defect of females in the age-periods 10-15 and 15-20 is probably due partly to higher mortality among females in ages, 5-20 and partly to incorrect return of the age of unmarried females and of mothers of very tender ages, so that the numerical superiority of females in the age-periods 5-10 and 20-25 is at the expense of the two intervening age-periods. The heavy mortality among females accounts for their low proportion in age-period 30-40. In the succeeding ages, the proportion of females improves correspondingly with the improvement in their relative mortality to males. A study of the vital statistics figures confirms this. Though these are admittedly imperfect, there is nothing to show that omissions occur more largely in one than in the other sex. From these, it is seen that in the first year of life, the mortality among males is higher than among females, so much so, that

although the number of male births exceeds female births, the proportion of the latter to the former is actually larger among the survivors (1,034 females to 1,000 males for the whole State). This higher mortality among males continues till the age of 5 years is reached. After the age of 5 years and up to the age of 30 years the mortality is higher than among males. From this age onwards, it is higher among males than among females. Attempts have been made to explain this excess of males over females in Mysore and in India generally. The excess of males in the United States of America has been explained as mainly due to larger migration of males into it. The excess of females over males in Europe is greatest in the northern countries of Europe, thence diminishing towards the south until in the countries on the Mediterranean there is an excess of males. "It might seem at first sight," remarks Mayo Smith, "that climate or geographical position had something to do with this distribution of females among the countries of Europe. But we cannot believe that there is any direct influence of climate on the proportion of the sexes. If there be any influence, it must come about indirectly through births, deaths or migration affecting the two sexes unequally." He is inclined to trace the excess of females in Europe to greater mortality among men from year to year, despite the fact that there are more males born from year to year than females. In India, the higher sex ratios are found in the South and East and the lower in the North and West. The deficiency of females appears to increase as we proceed North and West. Where the Dravidian element is pronounced, as in South and Central India, there the female excess is seen, and the male ratio falls; conversely, wherever the Aryan element is pronounced as in the North and West, the male ratio rises and the female ratio falls. Apart from this, it has been suggested that the fall in

the female ratio during the past two decades has been due to the fall in the proportion of females born to males born and to the absence of famine mortality which selects adversely to males and the heavy mortality from plague and influenza which has selected adversely to females. In the Mysore State, migration has little or no influence on the general sex ratio of the State as a whole. The reason for the excess of males over females in it has to be looked for in the variations in the sex ratio at birth and at death. At birth there is a preponderance of males both here and in the European countries, but in the sex ratio at death there are striking differences up to 5 years of age, the average number of deaths among males is high and so far conditions are similar; while in Europe, males have better chances of life for a comparatively short period of ten years from the age of 5, here the chances are even better and continue for 25 years, *i.e.*, up to the age of 30. Whereas the number of male deaths to 100 female deaths in England and Wales at age-period 15-25 is 133, in Mysore, at age-period 15-20, it is 84, at age-period 20-30, 83 and at 30-40, 109. This difference in sex mortality explains to some extent the difference in sex proportion. The greater mortality among females has been ascribed, among other causes, to infanticide, neglect of female children, evil effects of early marriage and pre-mature child bearing, a high-birth rate and primitive methods of midwifery, hard work allotted to women, and harsh treatment meted out to them. In Mysore, infanticide does not exist and as to the other causes mentioned, they prevail as much as they do in the rest of India. Any improvement in this must be slow but with the growth of education, medical facilities, and general culture, it is possible that conditions will alter. If they do improve, the excess is likely to be lessened perceptibly if not altogether wiped out. At present the deficiency

in females dominates the situation. Since 1881 the ratio of females has been falling; from 991 in 1891 to 980 in 1901; to 979 in 1911 and 962 in 1921. This is in keeping with the similar fall in most of the Provinces and States of India. The vital statistics figures lead to the inference that the female population has not grown at the same rate as the male population. Influenza was a disturbing factor in the past decade but if the deaths due to it are eliminated, the ratio would be 950 for the decade as against 962 with them. Even then the fall is seen to be a continuing one. As regards the observation that the Dravidian race shows generally an excess of females over males, the taluk figures referred to above seem to corroborate it to some extent in this State. The exact bearing of the general prevalence at one time of the *matriarchate* (Mother-right) in Southern India, where the Dravidian race is predominant, and the paramountcy of the *patriarchate* (Father-right) in the North and North-West of India generally on this problem has still to be worked out. The points can only be referred to here but cannot, for obvious reasons, be pursued at any length.

Civil condition.

"Civil Condition," in the Census Reports, indicates any of the conditions as to marriage of a person, *i.e.*, whether he or she is unmarried, married or widowed. In Mysore, as in the rest of India, marriage is not only universal but also takes place early in life. The significance of this statement will be better appreciated if a few comparative figures are given. Taking the age of 55 years as the limit after which first marriages are extremely improbable, there were, in 1921, in the State 4,459 males and 1,820 females who had not married. The corresponding figures for England and Wales (1911) were 172,202 for males and 189,645 for females. There were thus, in England, 39 bachelors and 104 spinsters

for one each in the State. Below 15 years of age, 1,815 males and 68,736 females had been married in the State, while not a single person under 15 years returned as married in England. Between the ages of 15 and 20, the number of the married in the State was 14,713 for males and 176,174 for females against 3,192 for males and 20,117 for females in England and Wales. This means that for every five males and nine females in Mysore who had married before attaining 20 years of age there was only one male and one female in England and Wales.

In the State, the unmarried among the males are more numerous than among females. The majority of bachelors are below the age of 15 years, while among females a fair proportion has been married by that age. Except in the earlier age-periods, the married state is more common among males than among females. In the case of the widowed, males are in a minority in every age-period and in the total population. Taking the unmarried condition first, it is found that 55 per cent of the male and 39·1 per cent of the female population belong to this category. Of bachelors, 68 per cent are below the age of 15 years, 31 per cent are between the ages of 15 and 40, while those aged 40 and over number 17,228, or about 1 per cent. Of the whole unmarried female population, 93·6 per cent of maids are below the age of 15 years, while those between the ages of 15 and 40 years form only 5·9 per cent. Spinsters aged 40 and over number only 5,909 and represent 0·5 per cent of the entire unmarried female population. The unmarried of all ages are proportionately more numerous among Christians than in all other religions, the proportion being 602 per mille of the total. Bachelors are in almost equal proportions among Muhammadans and Animists, *viz.*, 572 and 571 per mille, respectively. The proportion among Jains is slightly less and the lowest proportion is

found in the Hindu religion, *viz.*, 547 per mille. Among females the unmarried of all ages are proportionately most numerous among Christians, the ratio being 490 spinsters to 1,000 of the total population. The Animists follow with a proportion of 458 per mille; the Muhammadans, 433 per mille; the Hindus, 387 per mille; and the Jains, 355 per mille. Judging from the figures of the unmarried among females, it would seem that the married state is most common in the State among Jains and Hindus and least so among Christians. Early marriage is more common than adult marriage among Jains. Adult marriage prevails more commonly among Muhammadans and Animists. A fact worthy of note is that the proportion of the unmarried of all ages to the total population in the State has increased by 6 per mille of each sex since 1911. This is so in the different religions as well. As the improvement is noticeable from Census to Census, since 1881, there is ground for the inference drawn that there has been an unmistakable tendency "to postpone marriage to later ages."

The number of married persons is 38·9 per cent of the male and 40·8 per cent of the female population. Marriage is comparatively rare among boys under 15 years of age, while by that time a fair proportion of girls will have been married. These early marriages are specially common among the Hindus. The proportion of the married among females increases up to the age of 25 years, after which it falls not only on account of mortality in that sex, but also in the other sex, *viz.*, by loss of husbands. The largest number of married females is in age-period 20-25, in which nearly 20 per cent of the wives will be found. Among males the married are most numerous in age-group 30-35 and their numbers decrease from this age onwards, but their proportion to the male population of corresponding age is always higher than the same proportion among females. Thus, among those aged 40

and over, there are 12 males who have wives to 5 females who have husbands. This is because husbands are invariably older than their wives and as such the latter are grouped in some earlier age-period. Also, while elderly bachelors marry, spinsters rarely do so. But the more important reason is that while widowers generally marry, if they can, widows do not, at least among the Hindus, who form 91·7 per cent of the total population. Among Hindus, the proportion of the married of all ages is 39·0 per cent of the male and 40·8 per cent of the female population. The Hindu male proportion is seen to be higher than the general proportion of the married of all religions together and the Hindu female proportion is just equal to the general female proportion. In the remaining religions, the proportion of married males is less than the general proportion, the figures being Muhammadan 38·8, Animist 38·1, Christian 36·4 and Jain 36·1. The proportion among Muhammadan and Animist females is higher than the general average, *viz.*, 41·6 and 4·3 per cent, respectively. The proportion among Jain females is 40·0 and among Christians 37·2 per cent, which is the lowest in all religions. The number of children less than 5 years of age who were returned as married at the Census of 1921, is 208—77 boys and 131 girls. Of these numbers, 75 boys and 128 girls are Hindus, one is a Christian girl, and two boys and two girls Muhammadans. The number of married children under 5 years at the Census of 1911 was only 26—9 boys and 17 girls. The increase has to be regarded as large, especially in view of the fact that such marriages are prohibited under the Infant Marriages Prevention Regulation in force in the State. Either the Law has been evaded by the marriages being celebrated outside the State limits or the Law has been administered without undue severity, *i.e.*, by mere fines, which are considered as part of the marriage expenses incurred.

In the whole State, the number of widowers in 1921 was 186,839, and of widows 588,699, the percentages of which are 6·1 and 20·1 to the male and female populations, respectively. There were 30 widows below the age of 5 years, 296 between 5-10 and 2,202 between 10-15. The corresponding figures for widowers are 5 below 5 years, 72 between 5-10 and 82 between 10-15 years. In all age-periods, the proportion of widowers is less than the corresponding proportion among widows. The bulk of the widowed in either sex is among Hindus, while in the remaining religions the numbers are comparatively insignificant.

For an account of the marriages and institutions prevailing in the State, see Chapter VI *ante*.

Education.

At the Census of 1921, the population of the State was divided into two broad categories—the literate, those who could read and write, and the illiterate, those who could not do so. Of the total population of the State (5,800,000), only a few more than 443,000 are literate. Of these, about 386,000 are males and about 57,000 females. This means that of every 1,000 of the total population, only 74 are literate. Of every 1,000 of the population of the age of 5 years and over, the number literate is 84. The proportion for the total population is made up by 127 literate out of every 1,000 males and 19 literate out of every 1,000 females (or taking population of 5 years and over, 143 and 22, respectively). This means that the total proportion of literates among males is nearly seven times that among females. Hindus have 76 literate out of every 1,000 persons of the age of 5 years and over; the Muhammadans 158, and the Christians 411. The minor communities have the following proportions:—the Jains, 203 out of every 1,000 persons of the age of 5 years and over; the Buddhists, 310; the Sikhs, 405; the Brahmos, 750; the Jews, 742; and the

Parsis, 744. The Animists show the small proportion of 5 in 1,000. Literacy is closely connected with occupation, and those communities are more literate which require a knowledge of writing and reading. To some extent also, it is dependent on the existence of facilities for learning, whether there is need for it or not. Animists do not require a knowledge of reading and writing and they live in places where there are no schools. Next to them come the Hindus, who are largely agricultural and are largely resident in the rural area, where educational facilities are usually less than in the urban. Unless a school is close by, no agriculturist thinks of education for his children. Muhammadans follow mostly urban occupations, which require a knowledge of letters, apart from religious necessities. They have, therefore, twice the Hindu proportion of literates among them. The Christian community is even more urban and has, therefore, even a larger need for letters and better opportunities for learning. Further, the special facilities afforded to them by Missions in the matter of education make them easily the most literate in the State. The high literacy of the Jains is explained by the fact that they are largely engaged in trade or industry, in which a knowledge of letters is necessary. They have besides a traditional love for letters, which drives their boys to schools.

In the districts, where the Hindu population predominates, literacy is lower than in the Cities, where the literary classes are found in large numbers. Of the districts, Kadur shows the largest proportion of literacy, 95 in 1,000 persons of the age of five years and over. Next comes Shimoga with 93. Then come Tumkur, Hassan, Chitaldrug and Kolar, with 78, 77, 74 and 71, respectively. After a gap comes Bangalore District with 63 and last, after a greater gap, comes Mysore District with 46. Kadur's literacy is due to the fact that it has a

large immigrant Christian population which is literate. Mysore District has the largest proportion of Hindus and has the smallest proportion of immigrants in its population; its literacy proportion is, therefore, lowest. The proportion of literates in the four Cities are :—Bangalore City 343; Mysore City 334; Civil and Military Station, Bangalore 292; and Kolar Gold Fields 180. The proportion of literates among women for these Cities is 186, 162, 171 and 69 respectively. The lower literacy of the Civil and Military Station, Bangalore, is due to the fact that part of its Hindu and Christian population belong to the servant class normally required in a Cantonment. Similarly, the low proportion of the Kolar Gold Fields has to be set down to the large proportion of labouring classes in its population which cannot be keen on learning. Eight castes show 100 or more literates out of 1,000 of their total population. These are in order :—Brahman; Vaisya; Kshatriya; Neygi; Panchala; Banajiga; Lingayat and Mahratta. Eight others show less than 20; six others again, between 20 and 50; two others, Ganiga and Devanga, show 12 and 4 per thousand, respectively. Castes that show the largest proportion are those that follow the 'liberal' professions, the fighting classes and the trade and industrial classes. These are the classes which congregate largely in towns and have educational facilities within their easy reach. The Holeya and Madiga form the large agricultural labouring class and live largely in villages and are not in reach of schools. The impetus for change is only just beginning to affect them. They show, therefore, low proportions of literates. Of these two, the Madiga proportion is worse and is as low as the Animists and this is not to be wondered at seeing that his general position is an abject one, except that he is settled in the village and is not a wanderer like the normal Animist. The large agricultural caste of Vokkaliga shows 39 literate out of every 1,000 which, considering

what a large proportion of it lives in villages far away from schools, is not a very low figure as compared with the Hindu proportion.

In female literacy, the progressive communities lead; Jews, Brahmos and Parsis come first. The Christians come next; a long way after come Sikhs and Buddhists; very near them come the Jains and Muhammadans; and a long way below them come the Hindus.

The largest proportion of literacy is in Kannada—58 in every 1,000 persons of all ages knowing this language. Out of every 1,000 of the population of all ages, 10 are literate in English, 6 in Tamil, 6 in Hindustani, 4 in Telugu, and 1 in Marathi. The literacy of 10 in every 1,000 of all ages in English is fairly well distributed over the whole State. The Cities of Bangalore and Mysore, being University and educational centres, have the largest proportion. Of the Districts, Kadur is first with 69 per 10,000 of the total population, Shimoga next with 58 and Kolar close beside it with 57. Then come in order Hassan, Tumkur, Bangalore and Chitaldrug Districts and last, Mysore District. In this respect as in general literacy Kadur District is first and Mysore District last. The Indian Christians show a proportion of 90 literate in English out of every 1,000. The Muhammadans show 10 and the Hindus 8. Among Hindus, the Brahman shows 13 out of every 100 literate in English. The extent of literacy in particular age-groups shows that there is in the State a lapsing into illiteracy of literates in later life. Thus for every 1,000 persons, in the age-group 5-10, the number of literates is 35 for males and 12 for females; 128 for males and 36 for females in the age-group 10-15; 174 for males and 43 for females in the age-group 15-20; and 169 for males and 19 for females in the age-group 20 and over. There has, however, been a fair growth in literacy since 1887. The

proportion of literates to the whole population for five decades shows this unmistakably:—

	Males	Females
1881	85	3
1891	84	5
1901	93	8
1911	112	13
1921	127	19

The increase in the proportion since 1901 has been common to all the Districts and Cities and to the last two decades. The figures for males for the State (excluding the Civil and Military Station, Bangalore) rose from 117 per mille in 1901 to 136 per mille in 1911 and is 157 per mille for 1921; that for females rose from 8 per mille in 1901 to 13 per mille in 1911 and 21 per mille in 1921. The progress in female literacy is seen by the fact that the 1921 proportion is more than 2½ times the 1901 proportion. It may not be very much by itself but it is seen to advantage by this comparison. The progress indicated by Census figures is confirmed by the Departmental statistics. There were in 1891, in the State, 3,526 institutions, public and private, with 102,438 scholars in them. In the twenty years ending 1911, the number of institutions had increased by about 850 and the scholars by about 44,000. In the decade ending 1921, the number of institutions rose by about 6,000 and the scholars by about 172,000, an increase which has been termed "phenomenal." This large stride has been set down to "the very vigorous educational policy initiated in the State early in the decade and continued to the last."

Language. For Census purposes, five languages have been treated as vernaculars of the State. These are:—Kannada, Hindustani, Telugu, Tamil and Marathi. The number of people who speak these languages expressed in

thousands and their proportion per mille are shown below :—

TOTAL POPULATION OF THE STATE				5,979
Kannada	4,257	712 pe		ille
Telugu	922	152 pe		ille
Tamil	262	44 pe		ille
Hindustani	331	56 pe		ille
Marathi	78	13 pe		ille

These languages between them include 5,850,000 persons. The persons whose mother-tongue is not a vernacular of the State, number 129,000. This means that out of every 1,000 persons of the population, 979 speak vernaculars of the State and 21 speak some other languages. Of these other languages, the most widely spoken are, among Indian languages, Lambani with nearly 48,000, Tulu 35,000, Konkani 12,000, and Malayalam nearly 6,000; among European languages English with 14,000. Other languages, Indian and foreign, like Gujarathi and Persian, count about three and one thousand, respectively, and some of them very small numbers, as for example, Burmese 5 persons or Armenian or Baluchi 2 each. Among the vernaculars of the State, Kannada holds, as will be seen, the most prominent position. Telugu has large numbers only in a belt in the North-East and elsewhere is spoken by very small numbers as compared with Kannada. (For further particulars under this head, see Chapter VII *ante*.)

Infirmities.

At the last Census as in the previous Censuses, the infirmities regarding which detailed information was collected were insanity, deaf-mutism, blindness and corrosive leprosy. The total number of afflicted of all kinds is 9,936 persons, of whom 5,713 are males and 4,223 are females. Of these, more than one-half have been returned as blind; deaf-mutes exceed a third; and the remainder, which is about one-eighth of the total afflicted, is divided between the insane and leprous

persons, the former numbering 869 and the latter 314. The proportion of the afflicted to 100,000 of the population is as follows: Insane 15 (17 males and 12 females); Deaf-mutes 60 (70 males and 50 females); Blind 87 (93 males and 80 females); Leprous 5 (8 males and 3 females). Among males, the number of the afflicted is greater than among females in all the infirmities. It is doubtful if this disparity is due to any immunity peculiar to females; possibly cases of wilful concealment are greater in number among them. The number of these unfortunates who generally belong to the lowest classes and live mostly on alms, has varied widely from Census to Census in the State. The largest number was returned at the Census of 1871 (18,480), which in the following Census declined by more than 50 per cent (7,836). A rise of 35 per cent was recorded in 1891 (10,619), which was followed by a fall of 20 per cent in 1901 (8,684). In 1911 there was again an increase of about 50 per cent (12,245), and the last Census shows a decrease of 25 per cent. The large decline in 1881 has been ascribed to the great famine of 1876-1877, which must have told more heavily on infirms than on the able-bodied. No explanation is available for the increase in 1891 or for the decrease in 1901 in the Census Reports for those years. In the Report for 1911, it is stated that there was no uniformity in the methods of abstract in the Census of 1901 and that, therefore, it was necessary to take the figures of that Census with some modification. The decrease since 1911 may be largely due to the influenza epidemic of 1918, though the Census Report for 1921 makes it clear that it might be due, at least partially, to making up the figures at different offices instead of at the Central Office as in 1911.

The total number of persons returned as insane at the last Census is 869, of whom 526 are males and 343 females. A little more than a fourth of the total (*viz.*,

222) is found in the Bangalore City as the only asylum for insanes in the State is located in that place. The figures for the remaining Cities are :—Kolar Gold Fields, 6; Mysore City, 17; and Civil and Military Station, Bangalore, 25. In the districts the largest number returned is 102 from Kolar. Chitaldrug District follows with 100 afflicted persons. The rest are distributed in the remaining districts, the actual numbers ranging from 44 in the Kadur to 92 in the Mysore District. The number of deaf-mutes returned was 3,609, of whom 2,133 are males and 1,476 females. The largest number returned is 665 persons from the Mysore District, followed by 520 persons in the Tumkur District. In the remaining districts, the figures vary from 219 in the Kadur District to 472 in the Kolar District. The total number of persons returned blind is 5,188, of whom 2,849 are males, and 2,339 females. The largest number (1,086) is in the Mysore District and the smallest (214) in the Kadur District. The proportion of blind persons to 100,000 of the total population for the State and for the several districts is as follows :—

	Persons
Mysore State (including Civil and Military Station, Bangalore)	87
Bangalore District (including Civil and Military Station)	83
Kolar District (including Kolar Gold Fields)	100
Tumkur District	93
Mysore District (including City)	82
Chitaldrug District	109
Hassan District	85
Kadur District	64
Shimoga District	69

The State average of 8·7 to 10,000 persons may be compared to 15 persons to the same number for India in general, and against 8·5 for England and Wales. The highest proportion is in the Chitaldrug District; next in order are Kolar and Tumkur. These three districts have between them the hottest and driest parts of the

State. The Malnad portions, Shimoga and Kadur Districts, have the lowest proportion. This is in accordance with the view that the infirmity prevails to a greater extent in localities with a maximum of heat and glare. There has been a decline in the incidence of the disease since 1911. An examination by districts shows that the disease prevails most largely in Chitaldrug (about 11 for every 10,000 persons) and next to it in Kolar (10 for every 10,000 persons). The facilities for the relief of those suffering from eye diseases have been increased during the past decades at the Minto Ophthalmic Hospital, which is equipped on modern lines. The number of successful operations performed in this and other hospitals in the State is growing up from decade to decade: 1881-1891, 72 operations; 1891-1901, 545 operations; 1901-1911, 3,008 operations; and 1911-1921, 6,577 operations.

The number of persons returned as lepers is 314, of whom 232 are males and 82 females. They are exclusive of 25 lepers (13 males and 12 females) who were on the enumeration day at the Leper Asylum at Bangalore City. The largest number has been returned from the Bangalore District, including the City and Civil and Military Station, *viz.*, 111 persons. This represents more than a third of the total afflicted. The Kolar District and the Kolar Gold Fields have 90 and 7 persons, respectively. No lepers were returned from Mysore City. The rest of the number are distributed in the districts, the figures varying from 6 in the Kadur District to 26 in the Mysore District. As between the sexes, the proportion of females to afflicted males is very low, *viz.*, 353 per mille. Taking the figures from 1871 to 1921, it would appear as if there has been a decrease in the incidence of the disease in the State during certain decades:—

Census	No. of lepers	Census	No. of lepers
1871	1,497	1901	672
1881	533	1911	767
1891	814	1921	314

In 1911, a large number of lepers was returned from some taluks of the Bangalore and Kolar Districts. In 1921, excepting Bangalore and Chintamani, all other taluks and also the taluks of Dodballapur, Anekal and Srinivaspur have returned comparatively large numbers of these infirms. Statistics for 1911 of the last mentioned three taluks are not available. The prevalence of this disease to a greater extent in these taluks is not clear; at any rate, no plausible explanation for the greater liability of the people of these areas to this disease has been forthcoming.

Caste, Tribe or Race.

The subject of caste, tribe or race is dealt with at some length in Chapter VI *ante*, to which reference may be made for details. A few general facts may, however, be mentioned here. Whatever its origin, and whatever its merits or demerits, caste still sways the population of the State as, indeed, of India generally. Caste is still a living thing and as such at every recurring Census, petitions for special treatment of one kind or another are common. At the Census of 1921, for instance, the Satanis in the State desired to call themselves "Venkatāpūr Brahmans." Some members of the Nayinda caste wished that their name should be changed to "Nayanaja Kshatriyas." Certain Kunchetigas of Bangalore and Mysore desired to be shown as a community separate from the Vokkaligas; the Devanga Samaj of Hubli requested that their caste should be shown separately from the Neygi; some Panchalas petitioned they should be grouped as "Viswa Brahmans;" Lingayats of Krishnarajpet desired that they should be shown as "Virasaivas" under religion and "Virasaiva Brahman," "Lingadhari" or "Virasaiva Kshatriya," etc., under caste; certain Holeyas wished to be known as "Adi-Dravidas" and Kurubars as "Arya Kshatriyas." These requests seem natural,

especially with the growth of education and general culture.

(a) Hindus.

The Hindus of the State have been enumerated in the Census under 34 castes, and these together form 98·76 per cent of the Hindu population. On the numerical basis they may be grouped thus:—

(i) Seven castes which have each over 200,000 persons. These are:—Vokkaliga (23·6 per cent); Lingayat (13·3 per cent); Holeya (11·9 per cent); Kuruba (7·3 per cent); Madiga (5·1 per cent); Beda (4·9 per cent) and Brahman (3·9 per cent) of the total Hindu population.

(ii) Six which have between 100,000 to 200,000. These are:—Bestha (2·9 per cent); Golla (2·8 per cent); Vodda (2·8 per cent); Banajiga (2·5 per cent); Panchala (2·4 per cent) and Uppara (1·98 per cent) of the total Hindu population.

(iii) Five which have between 50,000 and 100,000. These are:—Agasa, Idiga, Tigala, Neygi and Mahratta.

(iv) Eight which have between 20,000 and 50,000. These are:—Kumbara, Nayinda, Ganiga, Devanga, Vaisya, Kshatriya, Mudali and Satani.

(v) Four which have between 10,000 and 20,000. These are:—Nagartha, Darzi, Jogi and Kunchetiga.

(vi) Four which have less than 10,000 each. These are:—Lambani, Meda, Koracha and Komati.

Of the first seven, the Vokkaliga, Lingayat, Kuruba, Beda and Madiga castes are mainly rural; the Holeya is equally rural, except that a goodly number of this caste is found in the Kolar Gold Fields area and in the Civil and Military Station, Bangalore; and the Brahman is more largely urban than the others, nearly a fifth of this caste living in the Cities of Bangalore and Mysore. All the six castes of the second group are mainly rural. So too are the five of the third group except that of the Neygi about a seventh of which is in Bangalore City; and of the Mahratta of which nearly a seventh is found

in the Cities. So also the castes forming the fourth group, excepting the Kshatriya of whom nearly a fourth and the Mudali of whom nearly three-quarters of the total number are in the Cities. Of the four castes of the fifth group, the Darzi caste has about a third of its numbers in the Cities; the others are mainly rural. Of the castes falling in the last group, more than a third of the Komati caste is in the Civil and Military Station, the rest being mainly rural. The occupation of the castes of which an appreciable part is in the Cities, is found to be of an urban character.

As regards distribution, Beda and Neygi are found in small numbers and Bestha and Uppara very largely in Mysore District. Ganiga and Kumbara are found in small numbers in Chitaldrug District. Golla is found largely in Kolar, Tumkur and Chitaldrug Districts; Madiga largely in Kolar, Tumkur and Bangalore Districts; Holeya in comparatively small numbers in Shimoga and Chitaldrug Districts and Jogi largely in Bangalore and Kolar Districts. The Lingayat is found in comparatively small numbers in Kolar District. There are nearly no Kunchetigas returned from this district. Lambani and Nagartha are to be found mainly in Shimoga District; Mahrattas chiefly in Bangalore and Shimoga Districts and Nayindas largely in Bangalore, Kolar and Mysore Districts. Tigalas inhabit Bangalore, Kolar and Tumkur Districts. Satanis are found only in small numbers in Chitaldrug and Kadur and Vaisyas are proportionately few in Mysore District. The Vodda is found largely in Bangalore, Shimoga, Kolar and Chitaldrug. The other castes are fairly evenly distributed over the State. Taking the Cities, in Bangalore and Mysore, the Brahman caste is found in larger numbers than any other Hindu caste. In the Kolar Gold Fields, the Holeyas form a large part of the total. They are found in larger numbers than any other caste in the Civil and Military

Station, Bangalore, as well. The populations of the districts are largely composed as follows, the castes being mentioned in the order of their numerical strength :—

Bangalore District	...	...	Vokkaliga, Holeya and Madiga.
Kolar District	...	...	Vokkaliga, Holeya, Beda and Madiga.
Tumkur District	...	...	Vokkaliga, Lingayat, Madiga, Beda, Golla and Kuruba.
Mysore District	...	...	Vokkaliga, Holeya, Lingayat, Kuruba, Bestha and Uppara.
Chitaldrug District	...	...	Lingayat, Beda (mainly found), Golla and Vokkaliga in somewhat smaller proportions.
Hassan District	...	...	Vokkaliga, Holeya and Lingayat.
Kadur District	...	...	Lingayat and Holeya mainly and Vokkaliga in smaller proportion.
Shimoga District	...	...	Lingayat very much over any other single caste.

(*b*) Muhammadans.

Of the 340,000 Muhammadans found in the State, more than one-half are Sheikhs, less than a fifth are Saiyids, about a seventh are Pathans; Pinjaris, Moghuls and Labbais count each less than 10,000 and all other groups about 27,000.

(*c*) Christians.

The Christians number a little over 71,000. Nearly 6,900 of these are persons of European and allied races, a little less than 6,800 are Anglo-Indians and 57,500 are Indian Christians. It is worthy of note that while the number returned, at the last Census, as of European and allied races is about 6,900, the number of persons returned as born in Europe, America, Africa and Australasia is about 4,200. That is, there are nearly 2,700 born most probably in India and returned as of European and allied races. As the Anglo-Indians are separately shown, this figure, if correct, should represent mostly the numbers of European families settled in the Civil and Military Station, Bangalore. There is no

other place in the State where any large number of such persons could have settled.

Occupations.

The subject of occupations is touched upon in detail in the Chapter relating to *Arts, Industries and Manufactures* (*vide* Vol. III, Economic—Chapter VII). Only a few outstanding features will be briefly referred to here. Nearly 80 per cent of the population, in 1921, relied on some form of agriculture for their principal means of subsistence. Industry gave occupation only to 7·28 per cent, and of this total, the textile industries absorbed about 1·65 per cent and the industries of dress and toilet 1·57 per cent. Trade was followed by 4·38 per cent, and of this, trade in food-stuffs took in 2·28 per cent. In the Cities, the functional distribution is very different from that in the country as a whole, the proportion of persons dependent on agriculture being less than that dependent on trade, commerce and industry. In the districts, agriculture predominates, with smaller percentages under industry, trade and commerce. The devolution of caste from father to son is still ruling supreme, except in the Cities. The process of disintegration has, however, set in, and is slowly but steadily, forging ahead. Under the modern system of Government pursued in the State, all avenues of employment are open to every class and caste in it; education is no longer the monopoly of any particular communities or castes; the further opening up of the country by railways and roads has enabled people to move about freely in search of paying occupations far and near; and the growth of trade and commerce has helped to multiply new occupations. People are thus being induced to give up their hereditary occupations and follow new ones according to the bent of their minds. The returns of the last Census throw considerable light on this defection from traditional callings. Among the Vokkaliga, Tigala,

Panchala, Neygi, Uppara and the Komati castes only a little over 50 per cent are still found following their ancestral occupations. The Beda, Besta, Uppara, Kuruba and Madiga are getting more and more dissociated from their ancestral callings, the percentage of workers following their original callings being less than 10 per cent in each case. Increasing numbers of people are being attracted to factories, mills, mines, etc. With the growth of local industries and mining, more will be absorbed by them. Some of the castes, like the Agasas, the Devangas, the Ganigas and the Holeyas are still dividing their strength fairly between their hereditary occupations and others. Although the Lingayats are said to have no occupation, the vast majority still cling to agriculture for their livelihood.

The percentage of dependants to actual workers is noted below for the main heads of occupation :—

Main Class	No. per 10,000 of total population		Percentage of dependants to actual workers	
	Persons supported	Actual workers	In Cities	In Rural Areas
A. Production of Raw Materials	8,066	1,998	181	307
B. Preparation and Supply of Material Substances ...	1,235	413	178	206
C. Public Administration and Local Arts	435	136	204	227
D. Miscellaneous...	264	125	133	90

The Panchamas, including the Holeya and Madiga castes, number nearly nine lakhs in the State, and form thus a little less than one-sixth of its total population. Each Holeya or Madiga worker has, on the average, two or three dependants.

Population and means of subsistence in the State.

The problem in Mysore is not one of over-population or of out-running the means of subsistence. The rate of increase in the population is low; in fact, the increase per decade has shown a steady decline since the decade ending 1881. In the decade ending 1891, the increase stood at 18·1 per cent; in 1901, at 12·1 per cent; in 1911 at 4·8 per cent; and in 1921, at 3·0 per cent. In the Western part of the State, there has been an actual fall in the population during the past two decades. In the decade ending 1891, the increase stood at 11·6 per cent; in 1901, it fell to 6·6 per cent; in 1911, there was a decrease of 1·7 per cent; and in 1921, the decrease rose to 1·8 per cent. The problem, therefore, is how to augment the growth of population in the State generally and particularly how to combat the decline in the Western Division. At the average rate at which population is actually increasing, *i.e.*, 0·36 per cent per annum (the average for 50 years), the population of the State can only double itself in about 277 years, taking it for granted that neither famine nor epidemics intervene in this long period. As regards the means of subsistence, the position is somewhat difficult to gauge. Production depends primarily on the growth of agricultural produce, growth of industries, advance in education and development of thrift among the people. Growth of agricultural produce depends, in its turn, on the increase in occupied areas, multiplication of agricultural stock and extension of irrigation. In 1881-82, the occupied area stood at 45,44,000 acres; in 1890-91, 60,42,880 acres; in 1900-01, at 70,48,491; in 1910-11, at 75,00,638, and in 1920-21 at 78,44,022. The increase has been, as will be observed, at a decreasing rate. In 1891, there was an increase of 33 per cent on the area in 1881; in 1901, the percentage of increase fell to 16·6 per cent; in 1911, 6·4 per cent; and in 1921, 4·6 per cent. In 1921, there was actually a decrease, if we take the figure for the

cropped area. The following statement shows the cropped area for five decades with percentage variation:—

Year	Acres	Variation in absolute figures	Percentage of variation
1881	4,351,006	...	..
1891	5,374,010	+1,020,004	+ 23·42
1901	5,882,329	+ 508,319	+ 9·5
1911	6,188,133	+ 305,804	+ 5·2
1921	5,952,098	− 236,035	− 3·8

The fall in 1921 was due primarily to the influenza epidemic of 1918, which affected rural population more than the urban (see Chapter X *infra*). In regard to agricultural stock, the following are the figures:—

Description of Stock	Number of stock in			
	1889-90	1899-00	1910-11	1920-21
1	2	3	4	5
Bulls, bullocks, cows, buffaloes and calves...	3,408,103	4,758,817	5,015,820	5,400,994
Sheep and goats ...	2,445,824	3,709,946	4,500,235	4,146,977
Ploughs	687,548	735,397	829,071	865,769
Carts	101,459	180,293	237,937	241,877

Description of Stock	Variation of stock in		
	1889-90 and 1899-00	1899-00 and 1910-11	1910-11 and 1920-21
	6	7	8
Bulls, bullocks, cows, buffaloes and calves	+39·6	+ 5·4	+ 7·7
Sheep and goats	+51·7	+21·3	− 8
Ploughs	+ 7·0	+12·7	+ 4·4
Carts	+72·6	+32·0	+ 1·6

As regards irrigation, the following figures exhibit the position, though they should be understood with the qualifications mentioned below :—

AREA ACTUALLY UNDER IRRIGATION (AREA CROPPED).

Year	Area in acres	Area of land on which crops were grown including double cropped areas
1900-01	868,977	1,015.473
1910511	951,062	974,694
1920021	889,558	923,897

The difference in the first of the two decades above mentioned is about 82,085 acres under "area in acres" and 40,779 acres under "area actually cropped;" and in the second decade, under the former the decrease is 61,504 acres and under the latter 50,797 acres. These differences are easily understood when we remember the factors governing them. The figures are for *decade* years only and the seasonal conditions vary from year to year. Apart altogether from other causes governing the figures, these two dominate the situation. Some caution must, therefore, of necessity, be exercised while drawing conclusions from the figures of cropped (irrigated) areas for *decade* years only. The extent of irrigable area, *viz.*, area made available for irrigation by the State, very often at a great expenditure, does not wholly determine the cropped or irrigated area in any given year. As is well known, a successful agricultural year is the result more of the seasonability and fair abundance of rainfall than of the mere availability or irrigation facilities. Moreover, if the particular year is preceded by a single, or a series of good, tolerable or bad years of rainfall, the results are sure to vary from the expected normal standard. To illustrate the point under consideration,

the following extract, taken from the *State Administration Report* for 1920-21, giving the characteristics of that revenue year, in which, it may be incidentally noted, there has been a decrease of irrigated and cropped areas, may be usefully quoted :—

" * * * There was a considerable diminution of rainfall in the Kolar, Tumkur and Chitaldrug Districts, both the Hingar and Mungar rains in the Kolar District being quite deficient. * * * * Great anxiety was felt about the seasonal prospects and a programme of relief operations was kept ready against emergencies. * * * * The North-East Monsoon was almost a failure, few tanks having received a full supply. In the districts of Bangalore, Kolar and Tumkur, the wet and dry crops suffered badly. * * * ."

When these seasonal conditions are borne in mind, the diminution in the cropped irrigated area of the year in question appears quite natural. Thus to get a true appreciation of the significance of cropped and irrigated areas in any particular year or years, explanatory details of the kind just mentioned which cannot conveniently be exhibited in tabular form, have to be considered and given due weight for.

As to manufactures, the value of the outturn from manufactures in 1910-11 was about Rs. 120 lakhs; in 1920-21, it was Rs. 228 lakhs. Literacy has made fair progress, as will be seen from the following statement :—

Year	No. of literate per mille			
	Male	P. C. of variation	Female	P. C. of variation
1901	117	...	8	...
1911	142	+ 21·4	15	+ 87·5
1921	163	+ 14·0	24	+ 60·0

Apart from the growth of literacy, which has been fair, the rates of increase under population, occupied area,

and agricultural stock show no upward tendency. The rates are just commensurate with each other and no more. While there has been no decline, there has been no progress either worthy of mention. But considering that the past fifty years has seen the great famine of 1876-77, and the ravages of the Plague and the Influenza, it ought to be admitted that the progress attained has been maintained steadily from decade to decade. This augurs well for the future. Indeed, the progress under manufacture is notable and if it is kept up, it would indicate progress. In recent years, economic opinion has veered round to the view that an increase in the population of a country need not be feared provided the productive efficiency of the people stands high. The stress has been, in the words of Professor Seligman, shifted from food to wealth and efficiency. Productive efficiency depends, according to him, not only upon character and education,—intellectual, industrial and ethical,—but also upon social organization and economic methods. The problem of population, in short, is to-day a part of the problem of production and distribution of wealth. The efficiency of the people as producers of wealth has to be improved, and a system of taxation which would aim at distributing wealth more in accordance with modern ideas will soon be called for. (For further information on this subject see Vol. III, Chapter XIII.)

General characteristics of the people.

The people of Mysore are, in general, a hardy, healthy and well-formed race, fairer as a rule than those of the low country. They are also rather above the size of the coast people and possessed of regular features. In the Western parts of the State, the complexion of the people is even much fairer than in the Eastern. "I have never," says Buchanan, "seen finer forms than those even the labouring women of that country frequently possess.

Their necks and arms are in particular remarkably well shaped. The generality of the people are courteous, polite, contented and possessed of most of the passive virtues." Writing of the people of the old Nagar Division in 1838, Mr. H. Stokes of the Madras Civil Service remarks:—"I have nowhere in India seen so much honesty and veracity as among the country people of Nagara." The military air about the people of Chitaldrug has been frequently referred to by old writers. They have been described as amongst "the most willing, hardworking and trustworthy" people in this part of India. Their cheerful obedience, readiness to move at a moment's notice and correct execution of orders have been spoken of highly and termed in some measure "national." In public character and disposition, the people of Mysore have been described as among the most conservative inhabiting South India. In practice, perhaps, they exhibit a greater aptitude for the labours of the field and the tending of cattle than for other occupations. With the bucolic turn of mind there was no doubt much stolidity to be found among the agrestic hinds, but accompanied with blind devotion and simple fidelity to their masters. The better specimens of headmen, on the other hand, are dignified and self-reliant, commanding and gaining respect, proud of hospitality, sagacious observers, shrewd in contestation and with a vein of homely good sense and humour. The industrial classes and field-labourers are hard-working to a degree, especially the women. While the bulk of the Hindus engage in hard bodily labour, the Muhammadans, who were until a century ago soldiers by profession, have taken easily to handicrafts and trades, in which they have shone. People in the Nagar Malnād are fair and muscular, but of a lighter build than elsewhere. They ascribe this to their rice diet, though probably it is as much due to the humidity of the atmosphere they

breathe. The superior size and strength of the women of Basavapatna and its vicinity over those of the adjoining areas is very striking, though the latter have certainly the advantage in appearance. The Halliar and Halepaikas of the Nagar Malnād, though short of stature, are remarkably thick set and muscular. The Heggades and the Malava Gaudas are tall and handsome. In manual labour, however, men in Malnād are greatly excelled by the Kanara coolies, who find their way into their midst in search of labour. One of these labourers will, it is said, perform the work of two Malnād men. To the two maunds a Malnād man can carry with difficulty, a Kanara cooly will, it is said, carry three maunds (=84 lbs.), a distance of 12 miles. In the Manjarabad area, men are distinguished far above the men of the plains by general symmetry of shape and powerful build or frame. Their expression of countenance is also manly and prepossessing.

Dwellings in towns and villages.

Towns are built in irregular and narrow streets. Often they are roughly paved, but, except in areas brought under the Municipal Regulation, are not kept free from domestic refuse. In the Municipal towns, the lay-out of streets and their sanitation being under control, a great deal of improvement has been effected during the past forty years. In several of these towns, congested parts have been opened up and new roads and conservancy lanes laid down to provide for their better sanitation. In Bangalore and Mysore this mode of improvement has been most effective, much money having been continuously spent on the work. New extensions, laid out on modern lines, and adopting the latest ideas in town-planning, have been opened out in these and other towns, and they have found favour with the people.

Almost every town has its temple (*Dēvastāna*), which is usually found built in the middle of a street. It has

usually one or more *mutts*, which are convenient for travellers to lodge in.

The villages in the Maidan parts are, as already mentioned, surrounded with the remains of a strong hedge of *kalli* (*euphorbium*), *butali* (*agare vivipara*), *sigikai* (*mimosa saponaria*) or other prickly bush. The remains of a gate, which apparently was closed at night, are also to be seen in some places. Similarly are to be seen in some parts of the country the remnants of the *hudai*, a round tower of loose stones with loopholes, intended evidently for defence from attacks of robbers or marauders. The houses are built in narrow streets, which are partly blocked up with granaries, and being usually very low, become in wet weather almost impassable from mire and cow-dung. Large pits are made in some part of the village, in which the manure of its inhabitants is thrown. Straw is stacked in the backyard of each house. Each village has its own temple, dedicated to Hanuman, Virabhadra, or Basava: also a shrine dedicated to the local goddess—Ammanavaru or mother. These temples and shrines are built with a vestibule or portico, in which the village headmen meet to discuss public business, and travellers are allowed to lodge. An old record states that a great many of the murders in Mysore acknowledged by Thug approvers were committed in these buildings and the victims buried in them. In the Malnād, villages are, as previously remarked, almost unknown. The owner of each estate has a large home on some eligible part of it, and his tenants, labourers and servants reside on their respective allotments. Their cottages have small gardens of vegetables, plantains and other fruit trees.

The dwellings of the people are generally built of mud, one-storeyed and low, with few, if any, openings outwards except the door, but possessed of court-yards within, surrounded by verandahs, and open to the sky.

In the better houses, these are well-paved and drained, while the wooden pillars and doorways are elaborately carved or painted. The larger houses in towns and those of the wealthier land-holders in the Malnād consist of one or more square courts, called *angala* or *chowki*, open in the centre with a corridor all round; small dormitories and closets without windows open into these verandahs. The common name for a house is *manai*, and its size is estimated by the number of its *ankanas* or compartments between the pillars. A few are made with an upper storey and are called *māligai manai*; a cutting of planks covered over with mud is sometimes added. The walls are washed with white and red clay and the floors are polished and kept clean with cow-dung, plaster being hardly ever used. A *raiyat's* house in the open country is generally a long narrow room, half of which is appropriated to the cattle at night, thatched with grass. The temporary hovels erected by the migratory tribes such as Voddars, etc., are called *hatti*. A shed or hut is called *gudisel*, and a habitation of the Holeya is known as *gudu*.

In the larger towns, the roofs of houses usually are tiled, and burnt bricks have displaced the sun dried bricks of olden days. In the Cities of Bangalore and Mysore and also in the larger district towns and the Kolar Gold Fields, houses conceived on modern lines, and modelled on European types, with Mangalore tile roofing, have become common within the past thirty years. The frequent appearance of plague and the consequent opening out of these Cities on generous lines together with the liberal policy followed by Government in regard to grant of sites at cheap rates and house-building advances in the Cities, gave a large impetus to the building of sanitary houses of the modern kind. While the Municipalities have insisted on well-conceived designs, with suitable sanitary arrangements in the building of houses, the

people have shown an increased appreciation of the ideas underlying these requirements and readily acceded to them. Much of the improvement discernible in the housing of the larger towns and cities is primarily due to the growth of the sanitary conscience in the people of the State during the past two or three decades The building trade has shown an expansion during this period, the demand for machine-made tiles of the Mangalore type being great and leading to the starting of factories for their manufacture in widely distant parts of the State. The Bangalore City Municipality has in recent years (1923-24) built blocks of small and cheap model houses and sold them to the poorer folk on the instalment system known as "hire-purchase."

Dress.

Dress generally varies with caste. White or coloured cotton stuffs of stout texture supply the principal dress of the people with a woollen *kambli* (blanket) as an outer covering for the night or a protection against cold and damp. The generality of the Hindus including the Brahmans are bare-headed, the head being fully shaved except for the tuft (*juttu*) at the crown. The *dhotra*, a thin sheet, covers the lower limbs, one end being gathered into folds in front and the other passed between the legs and tucked in at the waist behind. A similar garment, *angostra* (*angavastra*) is thrown over the shoulders. In attending offices, Hindus usually wear a turban, called *peta* or *rumāl* and a long coat (*angi* or *angarika*), either woollen or cotton. The *peta* is more long than broad and is the characteristic head-gear of the higher classes in Mysore. Tied in the triangular Mysore fashion, it is both neat and admirable. It is usually lace-bordered. The *rumāl*, which is a large square cloth, is less worn now than of old. The merchant class dress more or less in the same manner. The *mundas* or turban of Poona and Tanjore types is

practically obsolete now in the State, though it is still occasionally affected by old-fashioned Desastha Brahmans. Dress including short coats, trousers, etc., of the more Western type has been fairly common with all Hindus including Brahmans. Indian Christians dress much like caste Hindus. The younger-folk don the cap, white or coloured, when attending schools and colleges. The Hassan cap, made of wool, once in great vogue, has been out of fashion for some time past. The Italian felt cap was a great favourite with boys until recently. It has been superseded by the home-spun white cap, which is all but universal now. Indoors, the turban and coat are dispensed with, and an upper cloth is substituted. The dress of the raiyats everywhere, except in the Malnād, consists of a *rumāl*, *angostra* and long loose drawers reaching to the knee called *chellana*, all made of cotton, local or imported, to which is invariably added a *kambli*. When not at work, they often wear a blouse or short smock-frock. The richer *gaudas*, and many of the raiyats in and around Kadur, wear *angarika* and *dhotras*. Labourers and others, a little lower than farmers, wear short tight drawers reaching to the middle of the thigh, called *gudigi* and gird their loins with a long piece of broad tape of a strong texture called *datti* or *kachcha*. The still poorer people wear only a *rumāl*, *kambli* and *lengutti* (or piece-cloth). Among the raiyats of the Northern Malnād, a thick coarse *dhotra* is more common than the *chellana*. On the Nagar side, many wear *chellana* of red and white, or blue and white, striped stuff. The *gaudas* of Koppa, Jagar Valley, and near about are distinguished by a peculiar blue and white striped cloth, called *nadukattu*, which they tie round their waist, so as to leave in front a loose fold which serves as a pouch to carry betelnut, tobacco or other small packages. Another peculiarity is found in the dress of the *gaudas* of Mel-bangadi, who make a sort

of jacket of their *kambli* by folding it close round the body and tying, or pinning with a thorn, the corners together over one shoulder. The dress of the Manjarabad *gaudas* is a good *kambli*, passed round the body and fastened over the left shoulder. The waist is girded with a similar article, or with a cloth, generally dark blue with a white stripe. The turbans are mostly white, or dark blue with a small gold edging. The labourers have a similar dress of coarser material and usually wear a leather skull-cap. All classes carry a knife, some of them very handsomely finished and inlaid with silver. Until recently, few of these people went about without a match-lock or musket.

The dress of the women is generally very becoming and modest. Unlike the women of other parts of Southern India, women of the State are usually more fully dressed. A tight-fitting short bodice (*Kupsa*) is universally worn, leaving arms, neck and throat, bare, the two ends being tied in a knot in front. It is generally of a gay colour, or variegated with borders and gussets of contrasting colours, which set off the figure to advantage. Bodices of this kind are either local made, in pure silk or silk and cotton mixed, or imported from Kumbakonam, Mayavaram and other places down south. This particular article of apparel distinguishes a woman of the State from her sisters of the Tamil, Telugu and Malayalam Districts, where the *kupsa* is restricted only to a few of the higher castes. In the colder parts, to the west, a somewhat loose jacket, covering all the upper parts of the body and the arms, is worn instead of a *kupsa*. The *sire* (or *Sari*), a long sheet, the ordinary colours worn being indigo or a dull red with yellow borders, is wrapped round the lower part of the body, coming down to the ankle. One end is gathered into a large bunch of folds in front, while the other, passed across the bosom and over the head, hangs freely over

the right shoulder. In the west, it is tied there in a knot. Among a few castes, the other end of the *sire* hangs over the left shoulder, passing over the right shoulder. This is the reverse mode of wearing it and is restricted among the Brahmans to the Dravidas and among the other castes to certain cultivating sections known as *Kudi-paita* (right-across). Among some Brahman sects, notably among the Mādhvas, the lower end of the cloth is passed between the legs and tucked in at the waist behind, which leaves the limbs more free. The deviations among the Brahman community are so many, that the mere fashion of wearing the *sire* is sufficient to indicate the particular sect to which the wearer belongs. Thus, the women of the Mādhva, the Smartha, the Sri-Vaishnava and the Sanketi sects have each their own particular mode of wearing the *sire*. The Vaisya women dress nearly like Brahmans, but not always with equal effect. As the fair golden-olive complexion natural to girls of the higher classes is much admired, those of the sex who are not so fair smear themselves with saffron to produce a yellow tint, not only on their cheeks but also on their arms and legs. The habit of blackening the teeth, copied from the Muhammadans and at one time largely prevalent, is nearly obsolete now except in rural parts. The practice of covering their heads and faces with a part of their *sire*, adopted likewise from the Muhammadans, is, however, still in vogue, except among the Brahman sects inhabiting the cities. Except among the cultivating castes, it has nearly gone out of use. In parts of Malnād, many women wear a very neat cap of the *adikkai halai*, the membrane which covers the leaf of the areca tree. This is nowhere else to be seen in India, except that men in certain parts of Kanara do the same. Among Brahman women of some sects, the hair is gathered into one large plait, which hangs straight down

the back very effectively decorated at the crown and at different points with richly chased circular golden cawls and bosses. Women belonging to the agricultural castes generally gather the hair into a chignon or bunch behind, stuffed out with a fleece of wool, and run a large pin through, with an ornamental silver head to it, which is rather becoming. In the Malnād, the women often do up the back hair in a very picturesque manner with a plaited arrangement of the cream white *ketaki* blossom (*pandanus odorotissimus*) or even with orchid blossoms or pink cluster roses.

The passion for ornaments is universal. Every village has its goldsmith and in the cities there has been a large influx of them from Kanara and some of the Tamil districts. Though separate figures for Akkasali (goldsmiths) are not available in the Census returns for 1921, the general class of Panchalas have flourished from decade to decade. They show an increase of 27·2 in 1921 over their strength in 1871. During the past decade they have increased by 3·2 per cent. They roughly number about 132,000 in the State, and are about 22 per mille of the population. Gold ornaments are commonly worn by women in the ears and nose, and in the arms, with rings on fingers and as many and costly necklaces and chains round the neck as means will allow. Plates and studs for the back of the head are also usual. The silver ornaments are bracelets, chains and heavy rings for the ankles, and loops or zones for the waist. Chains frequently connect the upper rim of the ear with the ornamental pin in the back hair and have a pretty effect. Among Brahmans and a few of the higher classes there has been of late a tendency to use anklets of a less ponderous make than in the olden days. Fashions are also changing in regard to jewellery, though only in the details of their make-up. The trinkets most common among men are a silver cord or chain, clasped round the

waist, called *udidhāra*, to which is sometimes attached a cylindrical silver box, called *tāyitta*, in which coins or other valuables are kept, and a round *chunnam* box. Lingayats, men and women, wear a silver box, called a *chowka* or *karadigi*, containing the *linga*. It usually hangs on the breast tied by a string round the neck. Those who cannot afford a *chowka*, tie the *linga* in a handkerchief either round the neck or to the arm above the elbow. Gold signet rings are common, Brahmans of the priestly order tying them to their sacred strings. Money is usually carried in a small net purse called *himmani chila*, which is tied round the waist under the cloth by strings attached to it at each end. A large bag, called *wottai chila* or *hassawi*, is generally carried by Lingayats when absent from home.

It would be tedious to describe the varieties of Hindu dress or ornaments in use in the different parts of the State. The only marked differences are in the Malnād, as indicated above.

The Muhammadan dress for men differs chiefly in cut and colour and in the wearing of long loose drawers. But for undress a piece of dark plaided stuff is worn. Muhammadans shave the head completely, but retain all the hair of the face, and grow beards. A skull-cap is worn, over which the turban is tied in full dress. The women wear a coloured petticoat and bodice, with a large sheet enveloping the head and the whole person, and pulled also over the face.

The higher class Hindus wear leather slippers, curled up at the toe and turned down at the heel, as also sandals, with wooden or leather soles and leather straps. The labouring and agricultural classes use sandals of a heavier make. The Muhammadans also wear the slipper, but smaller, and frequently a very substantial shoe, covering the whole foot. Shoes and boots of the European pattern are common among both the communities in the

cities. Women are never shod, except occasionally on a journey or in very stony places, when they sometimes wear sandals.

Members of the various Hindu castes and sects are known by the marks they paint themselves with on their foreheads. Married women commonly wear a wafer-spot or patch of vermillion, or sometimes of sandal-powder on the forehead. The *karadigi* of the Lingayats has been mentioned above. The commoner religious mendicants dress in a variety of grotesque and harlequin costumes. Garments dyed with red ochre or saffron are the commonest indication of a sacred calling.

Food.

Ragi (*Eleucine coracana*, the *maruva* or *muduva* of Northern India) which is by far the most important dry crop raised, supplies all the lower ranks with their staple diet. It is reckoned the most wholesome and invigorating food for labouring people. In some of the districts even Brahmans largely use it, especially in the rural areas. That it is a wholesome food seems unquestionable. It cannot, however, be easily taken to in after life. Those accustomed to *ragi* cannot feel satisfied with rice and *vice versa*. For this reason, children are early accustomed to this diet or to a mixed diet of rice and *ragi*. It is always ground into flour, as wanted, by means of a hand mill called *bisagallu*. In this operation it loses nothing by measure. The flour is dressed in various ways. The most common are a kind of pudding called *hittu*, and two kinds of cake, called *rotti* and *doshe*, both of which are fried in oil. Professor Church, in his *Food-grains of India*, gives the composition of ragi, from which it is seen that in 100 parts of whole (unhusked) ragi, there is 74·6 per cent of starch and 5·9 per cent of albuminoids; ash, 2·6 per cent; fibre, 3·6 per cent; oil, 0·8 per cent and water, 12·5. The percentage of phosphoric acid in the whole grain is about 0·4; its

nutrient value 84; and nutrient ratio 1 : 13. According to Forbes Watson, the food value of ragi is apparently great. "The ragi seems to be," he says, "uncommonly rich in certain important mineral constituents. The amount of phosphoric acid in ragi is only lower by one-fourth than that in wheat, and it is more than twice as high as in rice. It contains eight times as much iron, and eight times as much potassa as rice, and indeed, more of potassa than any of the other grains. It is likewise, exceptionally rich in lime. The ash, composed, as it chiefly is, of the most important elements, amounts on the average to 2½ per cent in ragi, as compared with 0·760 per cent contained in rice. It is, therefore, possible, if not indeed probable, that the large amount of favourable composition of the ragi may more than counterbalance its inferiority in nitrogen, so that, although according to the nutritive standard hitherto in use, it must be put below rice, ragi may still be, on the whole, a food satisfying by itself more completely the numerous exigencies of an article of human diet than rice."

Except in parts of Bangalore, Kolar and Tumkur Districts, rice is the chief article of food for Brahmans. The rice used by the Brahmans, and called *hasi akki* (or green rice) is never boiled. Boiled rice of the common kind, called *kudupal akki*, is used by the poorer classes. Another sort of boiled rice, which is done by a process in which each grain is broken into four or five pieces, and hence called *aidu nuguakki* (or five-piece rice), is prepared only in the families of rajas, who favour it much. In the Malnād, rice is used by all classes, though in some parts the poorer folk use ragi. Ghee, butter, milk and butter milk, form a large proportion of the diet of all Brahmans, as also dholl (*cajanus indicus*), wheat, jaggory, etc. Salt, tamarind, or other pickle, and chillies are used by all. Vegetables of many kinds, including greens, are consumed daily by all classes and

communities, Bangalore being noted for certain varieties, both English and Indian. Pickle of a special kind is well known in the Malnād and is much prized as an article of diet. Betel-nut, betel-leaf and tobacco are also universally consumed. The betel leaves of Mysore are in great demand for their colour, tenderness and agreeable pungency. Ghee and gingelly oil are used in making condiments and preparing dishes, cocoanut oil being used only by a few immigrant castes accustomed to it. Tobacco, however, is chiefly used by the Brahmans in the form of snuff and by other castes, chewed with betel-leaf or smoked in cheroots. The Brahmans, Jains and Virasaivas (Lingayats) abstain from animal food. The others eat animal flesh and fish when they can obtain it. Sheep, goats, fowls, wild hop, elk, other game and wild fowl are among the animals usually eaten. By Bedars and few other castes, monkeys are occasionally shot for food. The guana is considered game, and is much esteemed. Foxes are also eaten. Until a century ago, in the interior parts of the State, tame ducks, geese and turkeys were almost unknown. The rivers and tanks contain several varieties of fish in considerable abundance, which are in great request and are taken by the Bestas with nets; by other classes with hooks, and when the tanks are nearly dry, by letting off the water and securing the fish as they lie in the mud with wicker baskets. The right of fishing a tank in this manner is usually rented at varying rates. Sometimes, the deep pools of the rivers are medicated with the nut of a tree, which kills or stupefies the fish, so that they rise to the surface, and are taken out by the hand. The Cauvery and its affluents and the Thunga and the Bhadra, and the Sharavati abound in fish which are much prized as food (See Chapter V *ante*). Those of the Thunga and the Bhadra attain a large size, 12 or 18 lbs. and are much coveted near Mahishi (Shimoga District) and

some other temples on the banks of rivers, where the Brahmans feed fish daily with boiled rice and will not allow them to be molested. They become in consequence quite tame, and can be collected in large shoals at a minute's notice.

An unusual kind of food is the seed of the spiny bamboo (*Bambara arundiracca*) which is abundant in the Ghat regions of the Malnād. When procurable it is collected by the poorer classes, and used as a substitute for rice or ragi. This, however, happens but rarely, as the whole crop of bamboos of a particular species comes into bearing in the same season, dies and is replaced by the crop from its seed. People in Malnād enumerate four kinds, *Kiri bidaru* or small bamboo, *Hebbidaru* or the large kind, *nagutti* and *kanangi* and say that the small kind is twelve, and the large kind five years, in coming to maturity. Gamble states that the spiny bamboo flowers about every thirty years and is reproduced by seed, but several writers in the Indian Press, as noted by Watt, say only twice in a century. A forest of surpassing splendour is transformed into one of desolation and death, soon followed by fire, until the charred stems, dust and ashes are all that remain. But seeding would appear to take place in sections. A writer in the *Gardener's Chronicle* describes the manifestation of 1862 as having commenced in Travancore, extended to Malabar in the following season and in the next year to Coorg and Mysore. Mr. Henry Stokes, M.C.S., in his report of the Nagar Division of Mysore, dated 19th May 1838, refers to a similar manifestation which occurred in that Division in 1837. "The small kind of bambus," he writes, "came to maturity in the beginning of 1837 and vast numbers of the raiyats from Ajjampur, Tarikere and Honnali, whose crops had failed, resorted to the jungle round the Bababudan Hills to collect the seed. It sold for four rupees a khandy, when rice was selling for

Rs. 7 or 8. The natives assert that bambu harvest is usually coincident with a season of scarcity." Watt confirms this assertion and adds that the seeds, which somewhat resemble wheat, are edible, and have in certain years proved of great value in supplementing food supplies. Speaking probably of this grain, Church, in his *Food-grains of India*, gives the nutrient value as 87. He then remarks: "The food value of bamboo grain, after the removal of the husk, is high; its defects are due to the low proportion of oil and mineral matter."

In the Malnād, *Bhagni hittu*, or flour made from the pith of the *Cariota urens*, is eaten by Halepaikas when rice is dear.

Spirituous liquors, *sarai*, are drunk freely by the middle and lower orders; also by Bedars, Lambanis, and other castes and tribes. Fermented liquors, called *kallu* or *henda*, are also used. In the Malnād, the toddy is procured from *Bhyri* (*Cariota urens*) and from the *Ichal* (*Elati sylvestris*). The palmyra (*Torassas*) is unknown in the Malnād, while cocoanut trees are not tapped for toddy. Brahmans, Virasaivas and Jains are strictly sober. In the towns the vice of drunkenness is confined to the lower orders of the population and in the rural areas to Gaudas, Holeyas, Madigas and such others. In the Malnād, Halepaikas and Namdhāri *Gaudas* are addicted to *kallu* or *henda*. Ganja, called also *bhangi* in Kannada, is much smoked by Muhammadans, Lambanis and a few others. It consists of the dried leaves and flowers of the hemp plant (*cannabis sativa*) and is known to be a very powerful intoxicator.

Social life.

There is nothing special to remark of the social life led by the people of the State. The larger communities are self-contained to a degree, so that intercourse with one another is mainly restricted to trade and public

affairs, which bring them together. Life in the towns is much esteemed, the amenities being greater and the opportunities for betterment superior. Schools and Colleges provide the usual venue for field sports for boys in which they have won a good name for themselves. Older forms of amusement have largely gone out of fashion. Football, Cricket, Tennis and latterly Hockey are the favourite games. The ancient Hindu Theatre is still patronized, the influence of Parsi players from the Western Presidency being of late very pronounced in the matter of the presentation of plays, music and scenic representation. The Cinema is in great vogue in Bangalore, the City and the Civil and Military Station containing many "houses" dedicated to it. On festival occasions, they attract much attention to themselves from the rural population frequenting the City. Men and women are fond of *jatras* (or fairs) which are held in many places in the State. In connection with them cattle fairs are common and afford valuable opportunities for trade. The more important of these will be found referred to in Volume V of this work. Pilgrimages to Tirupati and to more distant shrines are as common now as ever before among all classes of Hindus. In the Malnād, visits to Dharmastala and a few other places are still much valued by a variety of castes. At village fairs, it is common for the Dombars, tumblers by profession, to exhibit their clever feats. The strength and agility displayed by them has been often praised by competent observers. In parts of the Malnād, Bhāgavat Ātadavaru (or players of episodes from the *Bhāgavata purāna*) are still to be seen. They are generally Haiga Brahmans and are well up in the traditional Vaishnava lore. *Harikathas* are common and have found recently admirers from among learned Christian Missionaries, who have shown a tendency to adopt them for the propagation of gospel stories. The *mēla* or nautch, at one time very

general in the State, is now resorted to only on marriage occasions. Its popularity has been on the wane for some time past. The festivals of the village goddesses and the annual sacrifices connected with them still attract large crowds from among the rural population. Gambling is practised by the low and unruly in the towns.

Among the Hindus, the many festivals afford opportunites for friends and relations to meet and interchange hospitalities and make presents to each other. As between the different communities, there is general amity and good feeling throughout the State. Apart from occasional differences due to ruffling of religious feelings, great cordiality prevails between Hindus and Muhammadans. Brahmans and Jains are greater friends now than ever they were in the State in ancient or mediæval times. Similarly, great goodwill prevails between Brahmans and Virasaivas—thanks to the advance of general culture and education in the State.

TABLE I—General Statement.

	Mysore State	Districts	Jahgir
Area in Square Miles	29,474·82	29,329·09	145·73
Number of Towns and Villages ...	16,673	16,672	1
(*a*) Towns .	105	104	1
(*b*) Villages .	16,568	16,516	52
Number of Occupied Houses	1,196,883	1,187,818	9,065
(*a*) In Towns	175,179	Not	available
(*b*) In Villages	1,021,704		
Total Population	5,978,892	5,395,376	583,516
(*a*) In Towns	862,628	860.374	2,254
(*b*) In Villages	5,116,264	4,535,002	581,262
Males	3,047,117	2,747,244	299,873
(*a*) In Towns	450,659	449,471	1,188
(*b*) In Villages	2,596,458	2,297,773	298,685
Females ...	2,931,775	2,648,132	283,643
(*a*) In Towns	411,962	410,903	1,066
(*b*) In Villages	2,519,806	2,237,229	282,577

TABLE II—Variation in Population since 1871.

District	Persons		
	1921	1911	1901
1	2	3	4
Mysore State including Civil and Military Station	5,978,892	5,806,193	5,589,399
Bangalore District	1,025,875	949,007	879,263
Kolar District...	792,339	780,153	723,600
Tumkur District	773,122	735,346	670,377
Mysore District	1,403,319	1,342,071	1,295,172
Chitaldrug District	574,179	564,243	511,062
Hassan District	583,960	580,200	568,919
Kadur District	333,538	338,457	359,270
Shimoga District	492,560	516,716	531,736

TABLE II—VARIATION IN POPULATION SINCE 1871—*concld.*

DISTRICT	PERSONS		
	1891	1881	1871
	5	6	7
Mysore State including Civil and Military Station	4,943,604	4,186,188	5,055,402
Bangalore District	802,911	679,607	842,159
Kolar District	591,113	481,191	646,837
Tumkur District	572,978	447,053	680,533
Mysore District	1,181,814	1,032,658	1,104,808
Chitaldrug District	424,899	318,534	447,085
Hassan District	511,975	428,344	518,987
Kadur District	328,918	291,377	307,137
Shimoga District	528,996	507,424	507,856

DISTRICT	VARIATION IN PERCENTAGES				
	1911 to 1921	1901 to 1911	1891 to 1901	1881 to 1891	1871 to 1881
	8	9	10	11	12
Mysore State including Civil and Military Station ...	2·97	4·82	12·05	18·09	—17·19
Bangalore District	8·10	7·93	9·59	—18·11	—19·30
Kolar District	1·56	7 82	22·41	22 84	—25·61
Tumkur District	5·14	9·69	16·99	28·17	—34·31
Mysore District	4·56	3·62	9·59	14·41	—6·53
Chitaldrug District	1·76	10·41	20·28	33·39	—28·75
Hassan District	·64	1·98	11·12	19·52	—17·47
Kadur District	—·14	—5·80	9·23	12·84	—3·17
Shimoga District	—4·67	—2·83	·52	4·25	—·08

TABLE IIA—DENSITY OF POPULATION FROM 1871 TO 1921.

DISTRICT OR CITY	YEAR					
	1871	1881	1891	1901	1911	1921
Mysore State ...	4,186,188	...	4,943,604	...	197	203
Bangalore City ...	...	...	...	...	...	13,173
Bangalore District	...	...	...	...	...	257
Bangalore District (including Bangalore City and Civil and Military Station)	285	230	314	257	307	332
Kolar Gold Fields.	..	...	...	...	...	2,923
Kolar District ...	...	...	...	...	...	224
Kolar District (including Kolar Gold Fields) ...	327	243	195	228	246	249
Tumkur District...	184	120	142	163	181	190
Mysore City ...	...	...	...	...	...	9,328
Mysore District ...	...	...	...	...	...	240
Mysore District (including Mysore City)	313	302	286	235	244	255
Chitaldrug District	109	77	104	124	136	138
Hassan District ...	355	285	198	215	218	219
Kadur District ...	111	110	125	129	121	120
Shimoga District.	131	131	132	132	128	122
Civil and Military Station, Bangalore	27,077	24,723	27,936	29,431	...	9,149

TABLE III—POPULATION DISTRIBUTED BY DISTRICTS AND CITIES.

DISTRICT OR CITY	Area in Square miles	POPULATION IN				Percentage of Increase or Decrease, 1911-1921
		1911	1921			
		Total	Males	Females	Total	
Mysore State including Civil and Military Station, Bangalore	29,469	5 806,193	3,047,117	2,931,775	5,978,892	2·97
Bangalore City ...	9	88,651	63,911	54,645	118,556	33·73
Bangalore District ...	3,068	759,522	399,872	388,507	788,379	3·79
Kolar Gold Fields ...	30	83,743	47,487	40,195	87,682	4·70
Kolar District ...	3,149	696,410	357,474	347,183	704,657	1·18
Tumkur District ...	4,061	735,346	394,897	378,225	773,122	5·13
Mysore City ...	9	71,306	43,783	40,168	83,951	17·73
Mysore District ...	5,488	1,270,765	659,146	660.220	1,319,368	3·82
Chitaldrug District.	4,159	564,243	294,955	279,224	574,179	1·76
Hassan District ...	2,665	580,200	292,249	291,711	583,960	·06
Kadur District ...	2,788	338,457	174.615	158,923	333,538	—1·47
Shimoga District ...	4,030	516,716	257,150	235,410	492,560	—4·90
Civil and Military Station, Bangalore.	13	100,834	61,576	57.364	118,940	17·06

TABLE IV—TOWNS AND VILLAGES CLASSIFIED BY POPULATION.

Towns and Villages containing a population of	MYSORE STATE	
	No. of Towns and Villages	Population
Total	16,673	5,978,892
Under 500	13,785	2,717,959
From 500 to 1,000	2,137	1,447,230
1,000 to 2,000	584	771,861
2,000 to 5,000	131	370,173
5,000 to 10,000	25	158,103
10,000 to 20,000	7	91,031
50,000 to 100,000	2	170,350
100,000 and over	2	235,319
Enumerated in railway premises, boats, encampments, etc.	...	16,965

TABLE V—Population of Chief Towns.

Towns	Population in 1921	Variation since 1911
Bangalore City	118,556	+ 29,905
K. G. F. (City)	87,682	+ 3,939
Mysore City	83,951	+ 12,645
Davangere ...	16,971	+ 6,897
Shimoga ...	15,090	+ 1,972
Tumkur ...	14,246	+ 8,207
Kolar ...	13,368	+ 5,175
Channapatna	11,846	+ 4,222
Chikballapur	10,431	+ 2,770
Chikmagalur	10,207	+ 1,570
Chitaldrug ...	8,520	+ 1,534
Hassan ...	8,096	+ 6 5
Tarikere ...	7,858	+ 1,240
Dodballapur ...	7,588	+ 316
Nanjangud ...	7,453	+ 207
Malvalli ...	7,400	+ 1,939
Seringapatam	7,217	— 240
Chamrajnagar	6,931	+ 378
Hole-Narsipur	6,679	— 183
Chiknayakanhalli	6,432	+ 1,244
Anekal ...	6,326	+ 1,739
Melkote ...	6,307	+ 3,772
Chintamani ...	6,161	+ 3,591
Harihar ...	5,904	+ 496
Bowringpet ...	5,893	+ 2,985
Kankanhalli	5,759	+ 889
Mulbagal ...	5,671	+ 2,994
Sira	5,596	+ 23
Closepet ...	5,552	+ 2,046
Devanhalli ...	5,387	— 926
Gubbi ...	5,263	+ 1,799
Maddagiri ...	5,143	+ 598
Magadi ...	5,132	+ 2,108

TABLE VI—RELIGION.

RELIGION	STATE
ALL RELIGIONS	5,978,892
Hindus	5,481,699
Muhammadans	340,461
Christians	71,395
Jains	20,732
Buddhists	1,319
Minor Religions and Religions not returned ...	63,286

TABLE VII.—AGE.

AGE	MYSORE STATE	
	Males	Females
All ages—Total	3,047,117	2,931,775
Under 5	353,134	376,148
Between 5—10	414,266	424,233
,, 10—15	374,677	343,511
,, 15—20	255,167	232,172
,, 20—25	249,234	278,266
,, 25—30	260,342	257,581
,, 30—35	245,513	230,306
,, 35—40	200,946	151,385
,, 40—45	176,032	162,865
,, 45—50	121,369	101,285
,, 50—55	135,604	135,552
,, 55—60	67,633	54,811
60 and over	193,210	183,660

TABLE VIII—CIVIL CONDITION.

AGE AND CONDITION	MYSORE STATE	
	Males	Females
MYSORE STATE (Grand Total) ...	**3,047,117**	**2,931,775**
ALL AGES		
Unmarried	1,675,268	1,146,955
Married	1,185,010	1,196,121
Widowed	186,839	588,699
TOTAL ...	**3,047,117**	**2,931,775**
UNDER 5		
Unmarried	353,052	375,987
Married	77	131
Widowed	5	30
TOTAL ...	**353,134**	**376,148**
5—10		
Unmarried	413,761	421,086
Married	433	2,851
Widowed	72	296
TOTAL ...	**414,266**	**424,233**
10—15		
Unmarried	373,290	275,555
Married	1,305	65,754
Widowed	82	2,202
TOTAL ...	**374,677**	**343,511**
15—20		
Unmarried	239,953	45,960
Married	14,713	176,174
Widowed	501	10,038
TOTAL ...	**255,167**	**232,172**
20—40		
Unmarried	277,984	22,458
Married	632,038	726,349
Widowed	46,013	168,731
TOTAL ...	**956,035**	**917,538**
40—60		
Unmarried	14,039	4,553
Married	409,064	201,624
Widowed	77,525	248,336
TOTAL ...	**500,628**	**454,513**
60 and over		
Unmarried	3,189	1,356
Married	127,380	23,238
Widowed	62,641	159,066
TOTAL ...	**193,210**	**183,660**

TABLE IX—EDUCATION.

	Mysore State		
	Total	Males	Females
ALL AGES (Total) ...	**5,978,892**	**3,047,117**	**2,931,775**
Illiterate ...	5,535,719	2,660,967	2,874,752
Literate ...	443,173	386,150	57,023
Literate in English	62,762	54,383	8,379
UNDER 10			
Illiterate	1,548,003	752,866	795,137
Literate	19,778	14,534	5,244
Literate in English	1,415	998	417
10—15			
Illiterate	657,902	326,724	331,178
Literate	60,286	47,953	12,333
Literate in English	7,886	6,710	1,176
15—20			
Illiterate	433,080	210,823	222,257
Literate	54,259	44,344	9,915
Literate in English	10,987	9,599	1,388
20 AND OVER			
Illiterate	2,896,734	1,370,554	1,526,180
Literate	308,850	279,319	29,531
Literate in English	42,474	37,076	5,398

TABLE X—LANGUAGE.

LANGUAGE	POPULATION
Vernaculars of the State :—	
Kannada	4,257,098
Hindustani	330,989
Marathi	78,336
Tamil	262,222
Telugu	921,468
Vernaculars of India, but foreign to the State :—	
Bengali	88
Coorgi	167
Gujarati	2,986
Kachchhi	54
Konkani	11,999
Koracha	2,813
Koramā	798
Ladar	192
Lambani	47,952
Malayalam...	5,818
Marwari	2,680
Nagari	185
Sandhi	187
Oriya	721
Panjabi	481
Patnuli	488
Rajputani	59
Tulu	35,192
Tibetan	90
Sindhi	137
Vernaculars of Asiatic countries beyond India :—	
Arabic	445
Persian	982
European Languages :—	
French	87
English	14,194
Italian	56
Portuguese...	52

TABLE XI—STATISTICS OF MAIN CASTES OR TRIBES.

No.	Caste	Strength	Males	Females	Where chiefly found
1	Agasa	99,876	50,792	49,084	Bangalore, Kolar, Tumkur, Mysore and Shimoga.
2	Banajiga ...	1,34,815	68,816	65,999	Bangalore, Kolar, Tumkur and Mysore.
3	Beda	2,71,134	1,38,345	1,32,789	Kolar, Tumkur, Chitaldrug and Bangalore.
4	Besta	1,57,872	79,405	78,467	Mysore and Bangalore.
5	Brahman ...	2,15,574	1,10,744	1,04,830	Bangalore, Kolar, Tumkur, Mysore, Hassan, Kadur and Shimoga.
6	Darji	15,016	7,914	7,102	Bangalore, Tumkur, Mysore, Chitaldrug and Shimoga.
7	Devanga ...	38,244	19,408	18,836	Bangalore, Kolar, Tumkur, Mysore, Chitaldrug, Hassan, Kadur and Shimoga.
8	Ganiga ...	41,973	21,408	20,565	
9	Golla	1,55,978	79,612	76,366	Bangalore, Kolar, Tumkur and Chitaldrug.
10	Holeya ...	6,60,453	3,30,685	3,19,768	Bangalore, Kolar, Tumkur, Mysore, Hassan, Chitaldrug and Shimoga.
11	Idiga	88,776	46,288	42,488	Bangalore, Kolar, Tumkur, Mysore, Chitaldrug, Hassan, Kadur and Shimoga.
12	Jogi	12,531	6,170	6,361	Bangalore, Kolar, Mysore, Chitaldrug and Shimoga.
13	Komati ...	3,116	1,647	1,469	Mysore and Kolar.
14	Koracha ...	5,233	2,653	2,580	Bangalore and Kolar.
15	Kshatriya ...	35,204	18,262	16,942	Bangalore, Kolar, Tumkur, Mysore, Hassan, Kadur, Shimoga and Chitaldrug.
16	Kumbara ...	44,289	22,670	21,619	Tumkur and Mysore.
17	Kunchetiga ...	12,522	6,302	6,220	Bangalore, Tumkur, Chitaldrug and Shimoga.
18	Kuruba ...	3,99,550	2,01,707	1,97,843	Bangalore, Kolar, Tumkur, Mysore, Chitaldrug, Hassan, Kadur and Shimoga.

TABLE XI—STATISTICS OF MAIN CASTES OR TRIBES—*concld.*

No.	Caste	Strength	Males	Females	Where chiefly found
19	Lambani ...	7,560	4,038	3,522	Kadur and Shimoga.
20	Lingayat ...	7,14,734	3,59,163	3,55,571	Tumkur, Mysore, Chitaldrug, Hassan, Kadur and Shimoga.
21	Madiga ...	2,81,227	1,43,920	1,37,307	Bangalore, Kolar, Tumkur, Mysore, Chitaldrug, Hassan, Kadur and Shimoga.
22	Mahratta ...	53,034	27,634	25,400	Bangalore, Kolar, Tumkur, Mysore, Chitaldrug, Hassan, Kadur and Shimoga.
23	Meda	7,170	3,790	3,380	Bangalore, Tumkur, Mysore, Hassan, Kadur and Shimoga.
24	Mudali ...	22,379	11,803	10,576	Bangalore, Kolar, Mysore and Hassan.
25	Nagartha ...	17,810	9,116	8,694	Bangalore, Kolar, Mysore and Shimoga.
26	Nayinda ...	42,360	21,710	20,650	Bangalore, Kolar, Tumkur, Mysore, Hassan and Shimoga.
27	Neygi	63,450	31,733	31,717	Bangalore, Kolar, Tumkur, Mysore, Chitaldrug, Hassan, Kadur and Shimoga.
28	Panchala ...	1,32,187	68,194	63,993	Bangalore, Tumkur, Kolar, Mysore, Chitaldrug, Hassan and Shimoga.
29	Satani	21,914	11,122	10,792	Bangalore, Tumkur, Mysore, Hassan and Shimoga.
30	Tigala	74,118	37,790	36,323	Bangalore, Kolar and Tumkur.
31	Uppara ...	1,08,580	54,968	53,612	Mysore, Tumkur, Chitaldrug and Shimoga.
32	Vokkaliga ...	12,94,801	6,52,116	6,42,685	Bangalore, Kolar, Tumkur, Mysore, Chitaldrug, Hassan, Kadur and Shimoga.
33	Vaisya ...	38,173	19,860	18,313	Bangalore, Kolar, Tumkur, Chitaldrug and Hassan.
34	Vodda	1,52,188	78,180	74,008	Bangalore, Kolar, Tumkur, Mysore, Chitaldrug and Shimoga.

TABLE XII--CASTES CLASSIFIED ACCORDING TO THEIR TRADITIONAL OCCUPATIONS.

	Group and Caste	Strength (000's omitted)	Proportion per mille of Population
1.	AGRICULTURAL CULTIVATORS (INCLUDING GROWERS OF SPECIAL PRODUCTS).	1,828	
	Kunchetiga	13	
	Tigala	74	
	Vokkaliga	1,295	
2.	LABOURERS	650	
	Holeya (also village watchmen) ...	650	
3.	FOREST AND HILL TRIBES	76	
	Koracha	10	
	Lambani	53	
	Other animists	13	
4.	GRAZIERS AND DAIRYMEN	156	
	Golla	156	
5.	FISHERMEN, BOATMEN AND PALKI BEARERS.	158	
	Besta	158	
6.	HUNTERS AND FOWLERS	271	
	Beda	271	
7.	PRIESTS AND TEMPLE SERVANTS ..		
	Brahman	216	
	Satani	22	
8.	TRADERS AND PEDLARS	216	
	Banajiga	135	
	Komati	3	
	Mudali	22	
	Nagartha	18	
	Vaisya	38	
9.	BARBERS	42	
	Nayinda	42	
10.	WASHERMAN	100	
	Agasa	100	

TABLE XII—CASTES CLASSIFIED ACCORDING TO THEIR TRADITIONAL OCCUPATIONS—*concld.*

	GROUP AND CASTE	Strength (000's omitted)	Proportion per mille of Population
11	WEAVERS, CARDERS AND DYERS ...	501	84
	Devanga	38	
	Kuruba	400	
	Neygi	63	
12.	TAILORS	15	
	Darzi	15	
13.	CARPENTERS (MASONS, BLACKSMITHS, GOLD AND SILVER-SMITHS AND BRASS AND COPPER-SMITHS).	132	22
	Panchala	132	
14.	POTTERS	44	
	Kumbara	44	
15.	OIL PRESSERS	42	
	Ganiga	42	
16.	TODDY DRAWERS AND DISTILLERS ...	89	15
	Idiga	89	
17.	LEATHER WORKERS	281	47
	Madiga	281	
18.	BASKET WORKERS AND MAT-MAKERS ...	7	
	Meda	7	
19.	EARTH SALT, ETC., WORKERS AND QUARRIERS.	261	44
	Uppara	109	
	Vodda	152	
20.	MILITARY	88	15
	Kshatriya	35	
	Mahratta	53	

TABLE XIII—SELECTED OCCUPATIONS—1921, 1911 AND 1901.

	POPULATION SUPPORTED IN			PERCENTAGE OF VARIATION	
	1921	1911	1901	1921 and 1911	1911 and 1901
Pasture and Agriculture ...	4,770,473	4,247,435	3,743,813	+ 12·4	+ 13·3
Fishing and Hunting ...	1,877	2,209	2,870	— 15·0	— 23.0
Mines	48,865	50,823	10,598	— 3·8	+ 379·5
Quarries of hard rocks ...	32	28	...	+ 14·3	...
Salt	1,049	2,136	3,760	— 50·9	— 43·2
Textiles	98,433	101,407	106,035	— 2·9	— 4·4
Hides, Skins and hard materials from the animal kingdom	3,015	4,055	8,889	— 25·6	— 54·4
Wood	43,160	40,659	46,299	+ 6·1	— 12·2
Metals	25,326	23,315	25,593	+ 8·6	— 8·9
Ceramics	23,655	26,515	25,265	— 10·8	+ 4·9
Chemical products properly so called and analogous ...	6,480	7,238	3,987	— 10·5	+ 81·5
Food industries	20,247	23,213	33,853	— 12·8	— 31·4
Industries of dress and toilet.	93,606	102,557	111,145	— 8·7	— 7·7
Furniture industries	249	357	96	— 30·2	+ 271·9
Building industries	55,190	48,714	54,571	+ 13·3	— 10·7
Construction of means of transport	1,095	1,083	1,264	+ 1·1	— 14·3
Production and transmission of physical forces	2,265	1,281	3	+ 76·8	+42,600·0
Other miscellaneous industries	62.724	62,738	72,511	— 0·02	— 13·5
Transport by road	18,922	17,547	21,394	+ 7·8	— 18·0
do by rail	16,461	9,395	8,738	+ 75·2	+ 7·5
Post Office, Telegraph and Telephone Service	4,605	3,558	255	+ 29·4	+ 39.0
Banks, establishments of credit exchange and insurance	9,629	7,217	6,527	+ 33·4	+ 10·6
Brokerage, commission on export	2,548	1,698	3,846	+ 50·0	— 55·9
Trade in Textiles	29,000	23,060	27,455	+ 25·7	— 16·0
Trade in skins, leather and furs	4,887	4,686	2,382	+ 4·2	+ 96·6
Trade in wood	3,162	2,615	2,421	+ 20·9	+ 8·0

TABLE XIII—SELECTED OCCUPATIONS—1921, 1911 AND 1901—*concld.*

	Population supported in			Percentage of Variation	
	1921	1911	1901	1921 and 1911	1911 and 1901
Trade in metals	1,306	1,027	503	+ 27·1	+ 104·2
Hotels, cafes, restaurants ...	15,158	11,624	12,123	+ 30·4	— 4·1
Other trade in food-stuffs ...	136,267	130,518	90,916	+ 4·4	+ 43·6
Trade in clothing and toilet articles...	1,418	3,803	2,207	— 62·9	+ 72·3
Trade in furniture	1,500	2,417	8,453	— 37·9	— 71·4
Trade in building materials.	1,911	4,234	4,563	— 54·9	— 7·2
Trade in means of transport.	1,986	1,421	3,253	+ 39·8	— 56·3
Trade in fuel	5,741	6,880	2,215	— 16·5	+ 210·6
Trade in articles of luxury and those pertaining to letters and the arts and sciences	12,381	9,531	12,612	+ 29·9	— 24·4
Trade of other sorts	33,029	22,777	88,673	+ 45·0	74·3
Army	22,154	21,986	16,448	+ 0·8	+ 33·7
Navy	6	8	...	— 25·0	...
Air Force	38	...	...	...	...
Police	36,903	49,735	18,961	— 27·8	+ 162·3
Public Administration ...	105,530	182,867	174,181	— 20 6	— 27·7
Religion...	29,571	34,564	33,819	— 14·4	+ 2·2
Law	3,842	2,687	2,560	+ 43·0	+ 5·0
Medicine	10,286	7,477	6,431	+ 37·6	+ 16·3
Instruction	33,473	22,110	16,101	+ 51·4	+ 37·3
Letters, Arts and Sciences ...	19,396	14,239	18,268	+ 36·2	— 22·1
Persons living principally on their income	19,393	20,935	20,943	— 7·4	— 0·0
Domestic Service	47,371	38,308	91,774	+ 23·6	— 58·3
General terms which do not indicate a definite occupation	51,140	400,319	483,495	— 37·2	— 17·2
Inmates of jails, asylums and alms houses	606	1,434	689	— 57·7	+ 108·1
Beggars, vagrants and prostitutes	39,148	50,531	92,890	— 22·5	— 45·6
Other unclassified non-productive industries	90	...	...	...	...

TABLE XIV—OCCUPATIONS OF SELECTED CASTES.

Caste and Occupations	Number per 1,000 workers engaged on each occupation	Number of female workers per 100 males
1	2	3
HINDU		
1. AGASA.		
Washermen	417	37
Cultivators of all kinds	436	11
Others	147	57
2. BANAJIGA.		
Traders	188	44
Cultivators of all kinds	402	10
Labourers, unspecified.	54	81
Others	356	31
3. BEDA.		
Hunters and fowlers ...	3	18
Cultivators of all kinds	551	12
Field labourers, etc. ...	248	91
Labourers, unspecified.	41	83
Others	157	32
4. BESTA.		
Fishermen	18	6
Cultivators of all kinds	571	12
Labourers, unspecified.	18	72
Others	393	70
5. BRAHMAN.		
Priests and temple servants	58	3
Income from rent of lands	190	23
Cultivators of all kinds	221	12
Public administration.	183	1
Others	348	10
6. DEVANGA.		
Weavers...	446	14
Cultivators of all kinds	271	12
Others	283	56
7. GANIGA.		
Oil pressers	187	29
Cultivators of all kinds	416	11
Trade	158	48
Others	239	42
8. GOLLA.		
Cowherds	21	22
Cultivators of all kinds	672	12
Labourers, unspecified	23	89
Others	281	61
9. HOLEYA.		
Village watchmen, and agricultural labourers	345	47
Cultivators of all kinds	295	11
Labourers, unspecified.	71	87
Others	289	43
10. IDIGA.		
Toddy drawers... ..	121	9
Cultivators of all kinds	554	12
Trade	32	89
Labourers, unspecified.	18	129
Others	275	56
11. KOMATI.		
Trade	572	22
Others	428	21

TABLE XIV—OCCUPATIONS OF SELECTED CASTES—*contd.*

Caste and Occupations	Number per 1,000 workers engaged on each occupation	Number of female workers per 100 males
1	2	3
12. KSHATRIYA.		
Military	32	2
Cultivators of all kinds	355	12
Public force	33	...
Others	580	23
13. KUMBARA.		
Potters	469	24
Cultivators of all kinds	359	13
Others	172	61
14. KUNCHETIGA.		
Agriculturists	520	11
Cultivators of all kinds.	120	71
Others	360	43
15. KURUBA.		
Shepherds and wool weavers	65	5
Cultivators of all kinds.	700	13
Labourers, unspecified.	18	113
Others	217	64
16. LINGAYAT.		
Cultivators of all kinds.	744	13
Trade	73	32
Others	183	58
17. MADIGA.		
Leather workers ...	54	7
Cultivators of all kinds	375	9
Field labourers ...	334	68
Labourers, unspecified.	68	75
Others	169	31
18. MAHRATTA.		
Military	50	2
Cultivators of all kinds	360	11
Police force	17	...
Labourers, unspecified.	24	95
Others	549	32
19. NAYINDA.		
Barbers	435	1
Cultivators of all kinds.	383	9
Others	192	82
20. NEYGI.		
Weavers...	533	16
Cultivators of all kinds	215	10
Others	252	70
21. PANCHALA.		
Goldsmiths	555	4
Cultivators of all kinds.	285	12
Others	160	95
22. SATANI.		
Priests	259	10
Cultivators of all kinds.	414	11
Others	297	40
23. TIGALA.		
Cultivators of all kinds.	737	13
Others	263	74
24. UPPARA.		
Salt workers	11	15
Cultivators of all kinds.	609	12
Labourers, unspecified.	14	81
Others	366	71
25. VAISYA.		
Trade	800	10
Others	200	21

TABLE XIV—OCCUPATIONS OF SELECTED CASTES—*concld.*

Caste and Occupations	Number per 1,000 workers engaged on each occupation	Number of female workers per 100 males
1	2	3
26. VOKKALIGA.		
Agriculturists	872	15
Cultivators of all kinds.	7	23
Others	121	51
27. VODDA.		
Earth and stone workers	201	27
Cultivators of all kinds.	346	9
Labourers, unspecified.	62	77
Others	391	60
MUSSALMAN.		
1. PATHAN.		
Cultivators of all kinds.	317	8
Trade	169	6
Public force	50	1
Labourers, unspecified.	111	36
Others	353	15
2. SAIYID.		
Cultivators of all kinds.	252	7
Industries	108	19
Trade	179	8
Public force	52	...
Labourers, unspecified.	118	30
Others	291	15
3. SHEIKH.		
Cultivators of all kinds.	259	7
Industries	120	15
Trade	192	8
Public force	44	1
Labourers, unspecified.	126	34
Others	259	15
CHRISTIAN.		
1. ANGLO-INDIAN.		
Extraction of minerals	121	1
Industries	213	80
Transport	116	4
Persons living on their income	168	58
Others	382	76
2. EUROPEAN.		
Agents, managers of landed estates ...	18	9
Extraction of minerals	89	1
Public force	537	...
Arts and professions ...	102	140
Others	254	51
3. INDIAN CHRISTIAN.		
Cultivators of all kinds.	87	12
Extraction of minerals	90	4
Industries	131	20
Domestic servants ...	182	69
Labourers, unspecified.	138	47
Others	372	32
ANIMIST.		
LAMBANI.		
Cultivators of all kinds.	493	6
Field labourers, wood cutters, etc.	263	101
Trade	60	239
Labourers, unspecified.	63	51
Others	121	13

BIBLIOGRAPHY.

R. MAYO SMITH, Ph.D.—Statistics and Sociology. The Columbia University Press, New York. 1910.

A. F. WEBER, Ph.D.—The Growth of Cities in the XIX Century. The Columbia University Press, New York. 1899.

HENRY STOKES, M.C.S.—Report on the Nagar Division of Mysore, 1838.

MAJOR H. MONTGOMERY.—Memorandum on the Malnad of the Ashtagram Division, 1839.

CAPTAIN F. CHALMERS.—Report on the Chittledroog Division of Mysore, 1842.

BENJAMIN HEYNE—Statistical Fragments of Mysore. 1800.

Imperial Gazetteer of India—Vol. I, 1907.

Mysore Census Reports—1881, 1891, 1901, 1911 and 1921.

Reports on the Census of India—1901, 1911 and 1921.

Statistical Abstract of the Mysore State—1921

Mysore Season and Crop Reports—1918-19; 1919-20; and 1921-22.

CHAPTER X.

PUBLIC HEALTH AND VITAL STATISTICS.

Conditions in the Maidān Districts.

THE diversified physical features of the country as well as the comparatively wide range in the average annual rainfall and the temperature have not only left their mark on the religion and customs of the people but have also influenced to a notable degree the sanitation and public health of the various parts of the State. The plains of Tumkur, Kolar and Chitaldrug Districts with limited rainfall and absence of natural facilities for cultivation have given rise to a race of hardy peasants. The fertile plains of Bangalore and Mysore Districts with their more equable climate are, on the other hand, thickly studded with populous villages, inhabited by a prosperous peasantry, who are fairer in complexion, although perhaps not of a stronger constitution.

Conditions in the Malnād Districts.

The inaccessible Malnād tracts of the three western Districts of the State, *viz.*, Shimoga, Kadur and Hassan, with the extraordinary fertility of the soil, the heavy rainfall, the ranges of hills alternating with valleys covered with evergreen forests, the thousands of perennial springs flowing on the hill slopes, while possessing features of natural beauty and attraction, do not compare favourably with other parts of the State in regard to public health. Their inaccessibility and the absence of much external traffic confer on these regions a limited degree of immunity from the invasion of dangerous infectious diseases. Proximity to large masses of decaying vegetation and indulgence in foods of a kind incompatible with good health have, however, induced a low vitality in the

population and a consequent inability to withstand disease. Numerous kinds of animal and vegetable parasites abound in the tract. Malaria is widely prevalent all the year round. The facility with which the hill springs can be brought to the very door of dwellings renders them exceedingly liable to pollution, and a number of deaths occur from bowel complaints after the early rains. The isolated character of homesteads, at considerable distances from each other, has bred strange superstitions and customs. The difficulty of securing skilled assistance renders the period of accouchement one of considerable dread and is responsible for a heavy infant mortality and a large proportion of stillbirths.

Results of investigations in Malnād.

The results of investigations carried out and observations recorded in connection with the inauguration of a scheme for the improvement of the Malnād go far towards corroborating the following conclusions:—

(1) The actual and natural population of the Malnād districts are both diminishing.

(2) The diminution of population is due to an excess of deaths over births.

(3) The death-rate of the Malnād districts is heavier and the birth-rate lower than that of the Maidān districts and of the State as a whole.

(4) The largest number of deaths is due to an unusual prevalence of Malaria and water-borne diseases.

Factors affecting the Malnād.

Among the causes underlying the depopulation in the Malnād, there are some that may be said to arise from a want of adaptation on the part of the people to changed economic conditions, others arising from the existence of injurious social customs and some due to the effect of climatic conditions and the geographic features of the country. In spite of the advantages which Nature has showered with a bountiful hand, man has not been able to thrive and multiply in the Malnād. On account of

the configuration of the land, village sites have been located with greater regard to agricultural convenience than to sanitary fitness. Thus among various causes tending to depopulation, insanitation is a thing to be counted. Census figures show that a decline in the population of certain of the taluks situated in the Malnād region has been going on during the past five decades (*vide* Chapter IX). It would not be incorrect to say that this decline is due to a variety of causes operating on the people concerned. In some places, one factor more than another is in evidence, but the ultimate result appears to be the same throughout. Changed conditions of life, due to advancing civilization, may have something to do in producing a less hardy race. Whatever the reason may be, people of Nagar and Sagar taluks do certainly less agricultural work now than their forefathers did in the olden days and are obliged to import labourers from the South and North Kanara Districts. These men are fed well and in addition are given wages which are saved by them and taken to their homes, when the monsoon commences and field work stops. Thus, the wealth which formerly remained in the land to be spent there, is now taken away from it and spent elsewhere.

The staple articles of diet of the people of these taluks is rice, which is boiled and eaten with condiments, *e.g.* chillies, salt and pickled mangoes, which do not go to form a perfect food to maintain health. Except in the case of a few well-to-do people, very little *dhall*, *ghee*, or oil is used. Rice washing and rice *conjee* are sometimes boiled with condiments and made into a sort of broth. Butter-milk is used occasionally. Milk as such is scarcely used. The dietary of the people is thus very poor in proteids and fats and it is not a matter for surprise that the people are poorly in health. Having low vitality, they have not the power of resistance to disease, and thus they fall easy victims to attacks of Malaria, Dysentery,

Pneumonia, etc. Persons whose general health and strength have deteriorated can have no pronounced sexual desires and such do not inherit sufficient vitality for a vigorous life. Perpetuation of the race under such conditions becomes increasingly difficult and a decline in the population is the natural result. Opinion is unanimous that the use of *ragi* is becoming more and more scarce. It has been remarked that such of the people as use *ragi* look certainly stronger and more healthy than those that confine themselves to rice. The people of typical Malnād villages depend for their water supply on small ponds. The water in them is generally much polluted by washings and manure and the rotting of leaves that fall into them. Water-borne diseases, *e.g.*, Diarrhœa, Dysentery and worms, are common.

Malaria however, as stated above, is the cause of the largest number of deaths in the Malnād. The average splenic index of a Malnād District is above 22·5 per cent, while that of a Maidān District averages 7·2 per cent. In other words, for every 100 children under 12 years examined, 7 children are found to have enlarged spleen in the Maidān and 22 children in the Malnād. Malaria prevails in the Malnād to thrice the extent that it does elsewhere.

There is some evidence to show that marriages are less fertile in the Malnād than in the Maidān. Each married couple has, on an average, about 4 children. If all the children born grow up to adult age, there would be no question of depopulation. But the general rule in these parts is for 50 per cent of the children to die in their infancy. Children born of none too strong parents have at birth low vitality. Their survival is due more to chance than to any attention bestowed upon them. Breast feeding in infancy appears to be a rarity. It is not that mothers are unwilling to suckle their children but they are incapable of doing so. The mothers surviving the

puerpureum have not enough vitality to secrete good or sufficient milk. The insufficiently or badly fed infants are very liable to attacks of Bowel complaints, Convulsions, Septic Tonsillitis, Pneumonia, Bronchitis, and lastly Malaria. In parts of Sagar Taluk, numbers of infants are said to die of a disease called *Kanni Rōga*, the chief sign of which is want of union of skull bones leading to hydrocephalus—water head—which proves fatal in about two years.

Quite 40 per cent of the women die during the puerperal period after confinement. When one hears the details of the treatment accorded to these unfortunate women, it is a wonder that any of them survive at all. Kept in a dark, ill-ventilated room, generally the worst in the house, bathed in almost boiling water, starved for the first 48 hours, subsequently fed with rice and other non-nutritious food, dosed with pungent and irritating drugs called "*Khāra*," powerful carminatives, and receiving no treatment which can be called rational, the women that are lucky enough to survive have an intuitive horror of subsequent conceptions. How this treatment of women in confinement came to be evolved cannot be explained. Everything is laid at the door of custom. The terrible toll it claims from parturient women may, to some extent, explain the greater preponderance of males over females in parts of the Malnād Districts.

The excess of males over females results in about 25 per cent of men remaining unmarried, on account of the difficulty of procuring proper brides. In almost every community, the practice prevails of demanding anything from Rs. 50 to Rs. 500 for a bride. Consequently, a larger number of men than in the Maidān remain unmarried, forming an important factor in maintaining a low birth-rate. Concubinage is prevalent only in the towns and larger villages and the concubines are, as a rule, infertile on account of promiscuous intercourse.

In Mysore, as in other parts of India, early marriage prevails almost universally amongst the Brahmans and is also coming into vogue among some of the other Hindu castes. Marriage within a limited circle, without any opportunity for natural selection, would in itself have been a sufficiently powerful bar against physical development, but coupled with it is that of child-bearing at a tender age with all its disastrous consequences. The unusual prevalence of pulmonary tuberculosis amongst females in the Muhammadan community can only be ascribed to the *purdah* system under which women are deprived of fresh air and light.

Amelioratory methods adopted in the Malnād.

The Malnād Improvement Committee, constituted in 1913, worked with the object of alleviating the conditions favourable to unhealthiness in the Malnād. Its activities were directed towards the opening of additional dispensaries, the provision of protected sources of water supply, the removal of rank vegetation, reclamation of pools and hollows and the entertainment of additional midwives. A judicious distribution of books and pamphlets on matters relating to public health was also carried out. It is, however, too early yet to offer any opinion with regard to the results attending these measures.

Variation in population since 1901.

The statement given at the end of the chapter shows the percentages in the variations in population during the Censuses of 1901, 1911 and 1921.

Registration of vital statistics.

The registration of vital statistics in rural areas is vested in the *Patels*. The monthly statements prepared by them are compiled in the Taluk Office and a consolidated return for the whole District furnished to the Sanitary Commissioner. Except in the municipalities and larger unions, even where it is perfunctorily done, the record of births is still far from satisfactory; but this

does not mean that these returns should be rejected as valueless. In rural areas, it is generally recognized that registration is not infrequently incomplete and unsatisfactory. But whatever may be their utility as reliable returns of any one particular year, they have nevertheless a distinctive value of their own for purposes of comparative study. These returns also enable one to distinguish generally the comparative birth-rate and death-rate, district by district, and the general causes of mortality, healthy and unhealthy seasons of the year, and also years of specially low and high mortality.

Factors affecting birth-rate in Mysore.

The record of births would give the erroneous impression that the increase in the population during the decennial Censuses was due largely to immigration, which, however, is not the case. But it is nevertheless a fact that in some parts, notably in the Malnād regions, the birth-rate is much below or approximately the same as the death-rate, resulting in a decrease of the total population in spite of immigration of labourers from the surrounding British Districts.

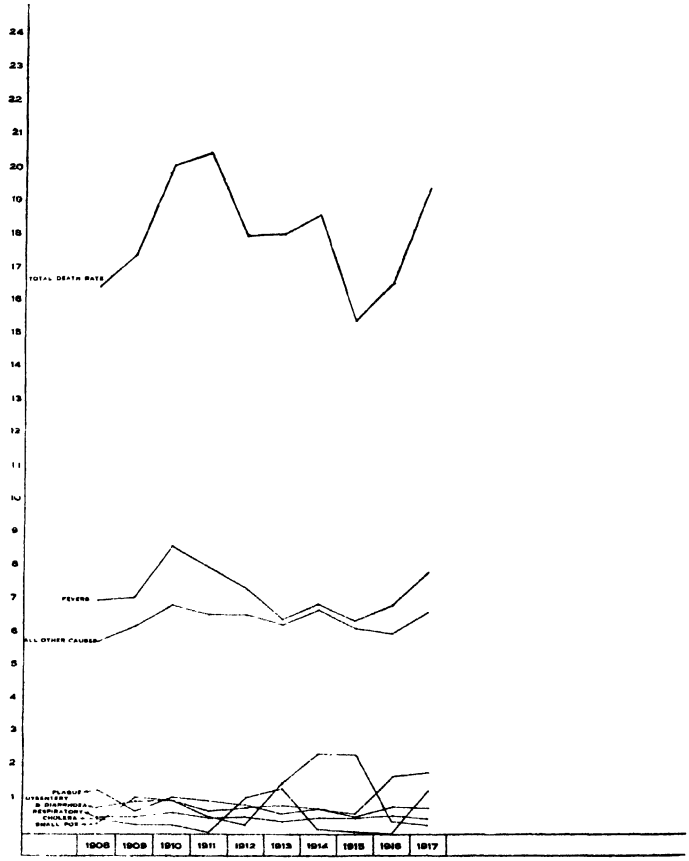
Average birth-rate for the State.

The average recorded birth-rate of the State worked out for twenty years as compared with the figures for the several Districts, calculated in the same manner, will be found in the following table:—

Birth per 1,000 of population.

MYSORE STATE ...	**18·00**	Hassan District ...	16·34
Bangalore District ...	17·80	Shimoga ,, ...	18·46
Kolar ,, ...	19·51	Kadur ,, ...	13·66
Tumkur ,, ...	23·21	Chitaldrug ,, ..	21·33
Mysore ,, ...	13·95		

While the accuracy of the average birth-rates given above is open to doubt, the figures serve to illustrate the rates of births per 1,000 of population in the Districts as compared one with another, as the margin of error in each may reasonably be expected to be similar. It should, however, be mentioned that considerable attention


24
23
22
21
20
19
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
TOTAL DEATH RATE
FEVERS
ALL OTHER CAUSES
PLAGUE
DYSENTERY
& DIARRHOEA
RESPIRATORY
CHILDREN
SMALL POX
1908
1909
1910
1911
1912
1913
1914
1915
1916
1917

To face 457

has been paid, during the past few years, to the registration of vital statistics, as will be noticed from the following calculated birth-rate of the State for recent years :—

Birth-rate per 1,000 for the State, 1912-22.

1912		19·11	1918		17·11
1913		18·93	1919		14·47
1914		20·30	1920		16·95
1915		20·03	1921		16·46
1916		20·32	1922		17·91
1917		20·00			

In 1918, influenza pandemic prevailed widely over the the State and its effects are seen in the figures for that and the ensuing years.

In Districts which show a remarkably low birth-rate, the low rate is not common to all parts but only to the tracts that come under the category of Malnād or those that approximate the Malnād in natural conditions. There is no doubt that irrespective of seasons of agricultural prosperity or distress, severe malarial infection in a locality seriously reduces the birth-rate.

Proportion of male to female births.

The proportion of male to female births worked out for a period of twenty years comes to 102 : 100. While the rate is fairly equal in other districts, the large excess of male over female births in the Mysore District, 111·77 : 100 and the reverse in the Malnād Districts of Kadur and Shimoga, 93·54 : 100, deserve mention. The latter is doubtless due to the increased severity of labour with a male child, including still-birth in women weakened by illness.

Principal causes of mortality.

The accompanying chart depicts, typically for a period of ten years, the relation of the principal causes of mortality to the total number of deaths returned for the State. It shows that the largest contribution to the total death-rate is made by the group of indeterminate diseases classed as "fevers" and the still more

indeterminate set of causes designated as "all other causes." The other diseases take a subordinate place. Of epidemics, small-pox and cholera, although almost annual visitants to the State, are amenable to effective control. The only diseases which deserve to be dealt with at some length are Plague and Influenza.

Urban and rural birth-rates.

The average birth-rate in rural compared with the birth-rate in urban parts is 11·67 : 17·70. Industrial conditions, higher prices of food-stuffs in towns and the lower vitality of residents of urban areas might have been expected to produce the opposite result. But it should be noted that there are few places in Mysore with industrial conditions like those of European towns, while instead of only the males migrating into towns, as in Bengal, Bombay and other parts, it is common here for entire families to resort to urban areas in search of employment. The migration of young adults into towns, the comparative abundance and variety of food-stuffs, the greater purity of water supply and the facilities for obtaining medical aid during accouchement account for the increased birth-rate of towns, though allowance must, however, be made for errors in the registration of births in rural areas while corresponding vigilance should be expected in towns.

Factors affecting death-rate in Mysore.

The following statement shows the death-rates of the various districts as well as of the State as a whole compiled from statistics for the past 15 years :—

Deaths per 1,000 of population.

MYSORE STATE	**18·80**	Hassan District ...	18·68
Bangalore District	19·76	Shimoga ,, ...	24·93
Kolar ,,	16·65	Kadur ,, ...	20·92
Tumkur ,,	17·25	Chitaldrug ,, ...	17·75
Mysore ,,	17.68		

Deaths, unlike births, are registered more or less correctly even in rural parts and this should account for

the manner in which the two ratios approximate each other. The death-rate of urban, compared with rural, areas is 34·17 : 16·31. It should not, however, be assumed that this high rate prevails in the larger towns of the State. While in villages, measures against epidemics like Plague, Cholera, etc., are comparatively easy of adoption, the smaller towns, whose municipal resources are incommensurate with extraordinary demands, suffer proportionately more than the larger municipalities on the one hand and the villages on the other. As usual, the death-rate of males exceeds that of females thus :— 19·34 : 19·23. The death-rates of the Hindu and Muhammadan communities are 17·89 and 21·11, respectively, while the corresponding rate for the other classes is 45·68. The latter, however, is not of much value on account of the smallness of population from which it has been deduced.

Causes of infantile mortality.

It may be said that roughly one among five children born does not survive its first year of life. Judging from the experience gained in the Cities, it would be a fair estimate to put down the mortality from debility and diseases of the nervous and respiratory systems to nearly 75 per cent of total infant mortality. Generally speaking, these are a group of causes which have reference to the social environment and economic condition of the parents as regards the home and its surroundings, occupations of mothers entailing hard work, and habits of life and poverty, which affect the mother during pregnancy and influence the health of the child, before and after birth, and help to swell the number of those who come into the world only to die very soon. Ignorance, debility, exposure and defective feeding are the most potent causes of infant mortality and unfavourable economic conditions and poverty are just the factors which lead to unfavourable ante-natal and post-natal conditions.

Of factors that contribute to high infant mortality, the two most potent ones, ignorance and poverty, exist in plenty in the country and the evidence of statistics is hardly necessary to visibly demonstrate what is painfully familiar to every one. Moreover, so far as infant mortality is concerned, the rural returns are so hopelessly defective and unreliable that it is unsafe to base any conclusions on them alone. In any case, the poverty, the indebtedness and the ignorance of the mass of our agricultural population are too patent to be overlooked.

Apart from poverty, the following causes contribute generally to the unusually high rate of infantile mortality in rural areas :—

(1) General insanitary condition of villages and dwellings therein ; (2) extreme ignorance of the people in matters connected with pregnancy, child-birth and infant rearings ; (3) insufficient protection of infants against small-pox ; and (4) special circumstances, such as abnormal changes in the weather, rise in prices of staple food-stuffs and consequent low-living of the poorer classes, outbreaks of epidemics, prevalance of diseases like syphilis, malaria and the like.

One of the causes of high infantile mortality in Mysore is Malaria. This is certainly borne out by available statistics. The intimate relationship of infantile mortality to malaria is so fully recognized by all malarial experts that other things being equal, they look upon infant mortality rates as one of the safest and most reliable indices of the prevalence of malaria in any locality.

Midwifery is still in an elementary condition. It is the common habit and custom in almost all districts to entrust the women in labour to the care of a woman of the most backward, illiterate, ignorant and superstitious class, the barber-midwife. The result of this custom is untold misery and numerous preventable deaths among parturient women and infants. The employment of an

increasingly large number of trained midwives in urban and rural areas is, however, proving beneficial, but a great deal has yet to be done before the most potent cause of infant mortality—ignorance—is done away with.

Infantile mortality an index of standard of Public Health.

The relation between infant mortality and general mortality is a very intimate one. It is strictly correct to say that a high infant mortality implies a high prevalence of the conditions which determine national inferiority. While it is quite true that there are certain special factors, which make for our excessive infant mortality, it cannot be too strongly emphasized that, in general, the causes that make for high general mortality also contribute to excessive infant mortality. Without, in any way, depreciating in the least the value of special measures directed towards the care of mother and child, it would be advisable to take a broad view of the general causes of mortality, and not be misled into the belief that infantile mortality is a condition apart from general mortality, to which it is but necessary to apply the usually accepted remedial measures to achieve ideal results. It has to be remembered that special efforts to reduce mortality among infants are directed towards reducing conditions inimical and peculiar to the earlier periods of life. These, however useful, will not control mortalities attributable to general causes which are always present, and associated with general insanitary conditions which operate prejudicially to all age-periods. It is but a fair inference that a marked decrease in infant deaths cannot be expected until the causes which are responsible for the general mortality are also dealt with and removed.

At the same time, it is worthy of remark that if we rely upon improvement in the general sanitation to reduce the excessive mortality among infants, even the most sanguine must recognize that many generations will pass before

anything like a satisfactory result can be realized. On the other hand, events of recent years have demonstrated that special measures directed to individual infants have given results immediate and better than could have been anticipated. Not climate, not topography, not municipal sanitation but it is the lives, the care and the habits of the mothers in the homes which determinethe difference.

Epidemics :— (a) *Plague.*

Of the many interesting epidemiological features which have characterized Plague during a period of over two decades, perhaps the two most noteworthy are :—

(1) The remarkable variation in intensity and diffusibility that have distinguished the outbreaks of different years ; and (2) the constancy of the seasonal prevalence of the disease in the worst infected areas.

Plague was introduced into Bombay City in August 1896. At first, diffusion was comparatively gradual, but by the middle of 1898, the disease had spread over the greater part of the Bombay Presidency, where it had been the reported cause of some 90,000 deaths. Infection was also carried to Mysore. Between July 1898 and June 1918, rather more than 224,476 deaths from plague have been recorded in the Mysore State—upwards of 11,000 deaths a year. Formidable as this total is, it certainly falls short of the truth. It is probably a closer approximation to the actual number, however, than is common in the case of other diseases. Bubonic plague is comparatively easy to diagnose and its symptoms are only too familiar in plague-stricken areas, even to the most ignorant.

The State has been persistently affected with plague during the whole of the twenty-year period and no month has been completely free from plague since July 1898. Altogether 224,476 plague deaths were reported for twenty years, 2·1 per cent of the All-India mortality and equivalent to a death-rate of 39·21, or a mean annual

rate of 2. The climate of the Mysore plateau is more equable and uniform than that of any other part of India and perhaps as a result of this climatic peculiarity, the annual incidence of plague has presented a lesser degree of variability in the State than elsewhere. No epidemic approaching in severity some of the outbreaks of Northern India, has ever been experienced in this State; but, on the other hand, no year has been so relatively plague-free as some of the more northern areas of India have been. The five most severe outbreaks were experienced during the first seven of the twenty years. The annual plague death-rate has varied between 5·37 in 1902-03 and 0·67 in 1905-06. Nine outbreaks of the twenty have been attended with mortality rates in excess of the mean. Most deaths were recorded in October. The months of maximum mortality were August, once; September, four times; October, five times; November, five times; December, twice; and January three times. In fifteen outbreaks, May was the month of minimum mortality; in three April; and in two June witnessed fewer plague deaths than either May or April. The mean daily number of plague deaths in May is 5; in October 54.

The climate of the State is always humid; in only four months of the twenty years has a humidity of less than 60 been recorded and there is less variation in the humidity from year to year than in other parts of India. In spite of this, it is interesting to note that the mean humidity of November and December of the nine years that have had a plague mortality in excess of the mean is 80 as compared with 74 and 72, the mean humidity of these two months of the remaining eleven years. It has been stated that humidity in excess of normal exercises its baneful influence on the spread of plague by producing conditions favourable to the rat flea. It is very probable that the indirect effects of excessive

humidity in the cold weather months, in those parts of India most exposed to cold weather rain storms from the West, are also of considerable importance.

Severe outbreaks of plague have been, more especially during the last decade, an expression of climatic conditions. Rainfall in defect of normal is inimical to plague.

Plague appears to have no predilection for the weak and unfit. Infants and young children appear to enjoy a certain degree of immunity from it. The female plague death-rate is generally slightly in excess of the male rate. Women are apparently somewhat more exposed to infection, but disparity in sex incidence is not very marked, though consistent.

Anti-Plague measures.

As regards anti-plague measures, evacuation of infected dwellings and the protection of individuals by inoculation, find favour in the State and the two measures combined doubtless result in the saving of a great number of lives. Plague extorts a considerably greater toll from the urban population than it does from the rural. Allowance has to be made for the fact that the superior communications of towns naturally render them more liable than villages to infection.

In most of the severely plague-infected areas of India, there are signs that the disease is decreasing in virulence; this decrease is almost certainly due to the increasing degree of immunity to plague of the rat population, of which there is direct experimental evidence.

Improvements of markets and the grain-stores of towns, in which rat infestation at present is most excessive, and the not necessarily vexatious control over the movements of grain and the like merchandise from and through plague-infected centres, are matters that have received attention. The co-operation of Railway Companies has also done much; at the present time Goods sheds and railway sidings are not so frequently infested

with rats as they used to be at one time. Government have issued necessary orders in order to enlist such co-operation as the Railway authorities can give in minimising the chance of the spread of infection in the State. Schemes for better housing of the people, by providing properly laid-out extensions in all the bigger towns, have been receiving active attention and the policy pursued in this direction has doubtless had some effect in reducing the incidence of plague. Endeavour is also being made to secure, as far as possible, rat-free conditions in dwellings by enforcing the provisions of the Municipal Regulation.

(b) *Influenza.*

The epidemic of Influenza started in the Mysore State at the commencement of October 1918. It was characterized by an almost simultaneous prevalence in all parts of the State and unlike plague and cholera, there was not a definitely ascertainable interval to account for the transmission and spread of the disease from one place to another or from one locality in the same place to another.

The meteorological data for Bangalore for seven months from June to December during each of the five years ending June 1918 appear to indicate that, as compared with the previous years—

(1) the mean dry temperature during 1918 exceeded the normal from September onwards till the end of December;
(2) the rainfall in October 1918 was deficient; and
(3) the mean percentage of humidity was lower in September and October 1918 than during the same months in the preceding years.

It might have been that the deficiency in percentage of humidity afforded a condition in which the influenza bacillus could thrive. Or, perhaps, it was that the changed atmospheric conditions imposed a strain on the

lungs and increased their susceptivity to the invasion of pathogenic organisms.

After the outbreak of 1918, a total of 1,95,437 deaths from influenza was returned for the whole State, representing a ratio of 34·25 per thousand of the Census population. The mortality in the three cities in proportion to population was much lower (20·31) than in the rest of the State, with the exception of the Mysore District, which returned a death-rate equivalent to 17·79 per mille. Why the death-rate was lower in towns than in rural areas and relatively very low in only one among the districts, it is difficult to explain.

The registered total mortality from all causes for the last quarter of 1918 amounted to 264,235 as compared with 34,730 for the corresponding period of 1917. There were thus 7·60 times as many deaths between October and December in 1918 as during the same period in 1917.

The prevalence of the epidemic was so widespread and practically so simultaneous in all places that nothing short of an actual census of the sick taken weekly in every affected area could have been of any use in determining the actual number of attacks. A census taken in the Bangalore City on the 6th and 7th October 1918 revealed that the number ailing in the City on these dates was about 10,000. The City population, according to the previous census, was 88,651.

The highest mortality from the disease, both among males and females, occurred at the age-period 20 and 30. The female deaths preponderated at the age-periods 5-10, 10-15, 15-20 and 20-30, the largest excess (3,089) being between the ages 15 and 20. The highest death-rate among females appears significant and may mean that insanitary housing conditions may have had an effect

on the course of the disease. Judged from the recorded statistics, the epidemic exhibited three distinct phases:—

(1) an initial mild type, that lasted during the first three weeks, with little or no complications;
(2) a marked development of complications thereafter, resulting in a high mortality; and
(3) a sudden decline in the number of deaths.

The type of the disease, the symptoms and the severity varied with individual constitution and age and to some extent according to the locality. In Arsikere (Hassan District), the disease was attended with diarrhœa and on the Kolar Gold Fields with vomiting also. The respiratory organs were chiefly affected and in many cases owing to mixed infection, pneumonia developed.

The disease was pandemic only during 1918. During previous and successive years, it prevailed only in a mild form, the case-mortality being insignificant.

Conclusion.

This brief outline of the salient features of the vital statistics of the State gives rise to the reasonable enquiry as to what effect, if any, organized Sanitary Administration for the last forty years has produced on the natural average expectation of life of individuals. The recorded statistics being extremely defective, it would be futile to expect to build a correct life table on them. Considering, however, that special care is taken in particular areas, *e.g.*, Bangalore City, in the collection and compilation of vital statistics, it would be useful to compare the variations in the average duration of life revealed by the statistics recorded in these areas. It is also not unreasonable to take the figures for Bangalore City as approximating the corrected birth and death-rates for the whole State for purposes of the life table. On the basis of these figures, the mean duration of life was 25·3 years in 1910, 24·43 years in 1920 and 32·23 in 1922. The low figure for 1920 is accounted for by the

devastating influences that had their origin in the pandemic of influenza of 1918. As compared with these figures, the average mean duration of life, calculated on the mean birth and death-rates for twenty years, is 26·32. The outlook is thus not without hope and the future appears to hold a promise of a steady improvement in the standard of Public Health, due to the increasingly efficient adaptation to the changing conditions of life in the State.

STATEMENT I—VARIATION IN POPULATION SINCE 1901.

Name of District or City	Population			Variation	
	1901	1911	1921	1901 to 1911	1911 to 1921
Bangalore City	69,447	88,651	118,556	19,204	29,905
Bangalore District ...	720,217	759,522	788,379	39,305	28,857
Kolar Gold Fields ...	70,874	83,743	87,682	12,869	3,939
Kolar District	652,726	696,410	704,657	43,684	8,247
Tumkur District ...	670,377	735,346	773,122	64,969	37,776
Mysore City	68,111	71,306	83,951	3,195	12,645
Mysore District	1,227,061	1,270,765	1,319,368	43,704	48,603
Chitaldrug District ...	511,062	564,243	574,179	53,181	9,936
Hassan District	568,919	580,200	583,960	11,281	3,760
Kadur District	369,270	338,457	333,538	20,813	4,919
Shimoga District ...	531,736	516,716	492,560	15,020	24,156
Total for Mysore State...	5,449,800	5,705,359	5,859,952	255,559	154,593

STATEMENT II—STATEMENT SHOWING THE BIRTH-RATES PER MILLE OF POPULATION FOR THE MYSORE STATE FROM THE YEAR 1913 TO THE END OF 1925.

No.	District	1913	1914	1915	1916
1	2	3	4	5	6
1	Bangalore	19·85	20·63	20·09	22·18
2	Kolar	21·60	23·42	22·28	25·04
3	Tumkur	24·62	24·68	24·35	26·26
4	Mysore	14·06	16·37	15·64	15·98
5	Hassan	16·40	16·43	17·62	16·44
6	Shimoga	20·26	21·73	24·30	19·04
7	Kadur	15·89	17·33	14·21	14·21
8	Chitaldrug	21·32	23·00	23·65	22·36
	Total for the State ...	18·93	20·30	20·03	20·32

STATEMENT II—STATEMENT SHOWING THE BIRTH-RATES PER MILLE OF POPULATION FOR THE MYSORE STATE FROM THE YEAR 1913 TO THE END OF 1925.—*concld.*

No.	District	1917	1918*	1919	1920	1921
		7	8	9	10	11
1	Bangalore	20·86	18·78	16·40	19·35	16·51
2	Kolar	24·99	21·41	15·09	18·53	18·28
3	Tumkur	24·92	20·52	16·96	21·74	18·92
4	Mysore	15·07	13·86	12·38	14·59	14·18
5	Hassan	16·30	14·21	12·88	12·27	14·69
6	Shimoga	20·15	17·26	15·58	16·25	17·92
7	Kadur	17·45	14·85	12·52	14·93	14·38
8	Chitaldrug	22·36	16·10	14·20	17·29	18·00
	Total for the State ...	20·00	17·11	14·47	16·95	16·46

No.	District	1922	1923	1924	1925	Remarks
		12	13	14	15	16
1	Bangalore	18·49	18·42	18·82	19·48	
2	Kolar	21·53	25·61	20·14	21·72	
3	Tumkur	19·77	20·18	19·72	17·90	
4	Mysore	14·40	16·07	15·63	15·20	
5	Hassan	16·36	15·67	14·72	13·72	
6	Shimoga	18·74	19·61	20·25	15·13	
7	Kadur	16·30	15·98	14·99	13·01	
8	Chitaldrug	19·86	17·87	20·88	20·92	
	Total for the State ...	17·91	18 04	18·05	17·16	

*Influenza pandemic prevailed during the year.

STATEMENT III—STATEMENT SHOWING THE DEATH-RATES PER MILLE OF POPULATION FOR THE MYSORE STATE FROM THE YEAR 1913 TO THE END OF THE YEAR 1925.

Year	Death-rate per mille of population	Year	Death-rate per mille of population
1913	18·07	1919	16·44
1914	18·66	1920	14·99
1915	15·53	1921	14·22
1916	16·63	1922	14·52
1917	19·54	1923	16·09
1918	60·28 (year of Influenza)	1924	21·18
		1925	17·44

BIBLIOGRAPHY.

ARTHUR NEWSHOLME.—The Elements of Vital Statistics (1899).
JOSEPH BURN.—Vital Statistics Explained (1914).
Imperial Gazetteer of India, Vol. I, Chapter X.
Reports of the Sanitary Commissioner in Mysore—1897-1922.
Mysore Census Reports—1901, 1911 and 1921.

ADDENDA ET CORRIGENDA.

Page	*Line*	*For*	*Read*	*Add*
56	In Table VI Heading-Line 3	1898	1893	...
111	14 (Marginal note).	*Aseres*	*Anseres*	...
140	20	Risley	Ripley	...
145	12 (Marginal note).	Quatrifage's	Quatrefage's	...
297	2	...	...	At end add (See *Vol. II* under *Sculpture and Painting*).
306	11	...	...	At end add (See *Vol. VI* under *Sringeri*).
308	20	Baudhayana	Bōdhayana	...
308	22	Baudhayana	Bōdhayana	...
308	26	Baudhayana	Bōdhayana	...

INDEX.

The references are to pages. Where one reference is of more importance than the others, it is placed first and separated from the rest by a semi-colon instead of a comma. Sanskrit and Vernacular terms are shown in Italics.

A.

Abbè Dubois: Instances of torture such as 'bridled mouth' quoted by him referred to, 278; his enumeration of the Christian population in Mysore, 343; his escape from the French Revolution and subsequent activities in the cause of the Church in India, 344; his '*Customs, Institutions and Ceremonies of the People of India*' referred to, 345; his introduction of vaccination into Mysore, 345; left India for good, 345; became the Superior of the Society of Foreign Missions in Paris, 345; his death, 345.

Abhinava Gupta: A well-known Sakta commentator of the North who was worsted in a religious controversy with Sankara, 301.

Aboriginal Races, in Mysore State: *See under* Pre-historic Races and Pre-Dravidians.

Ærolites: Recorded instances of their occurrences in the State, 38-39; at Maddur in 1865, 39; at Chetnahalli, in 1880, 39; Professor H. W. Pickering's opinion on their character, 39-40.

Age: Statistics of, 378; admittedly defective, 378; below the age of 5, 379; below 5-10, 379; from 10-15, 379; for all ages up to 15, 379; from 15-50, 379; 50 and over, 379; as between the sexes, 379; males outnumber females in all age periods, except in three, 379; females considerably fewer in certain age periods, 379; causes for this disparity, 379; among Muhammadans, Christians, etc., 379; comparison between different communities, 379-80; distribution of age by castes, 380; the "mean age" among males 25·7 and among females 24·9, 381; mean age for the total population of the State 25·3, 381; as regards fecundity, 381-382; table, 436.

Ajīvakas: A sect among the Jains, as represented by Gōsala, 286.

Akalanka: A Jain teacher who defeated Buddhists at Kanchi, 8th or 9th century A. D., 295.

Alberūni: His reference to *Karnāta*, 255.

Alghazati: the most famous religionist, revivalist and author in the whole history of Islam, who died about 1111 A.D., referred to, 337.

Ālvārs, the: Twelve in number and supposed to be followers of the Bhāgavata School, 309; their names, 309; their Vaishnava cult, 309; their shrines at Tirupati, Srirangam, Algarkoil and other places, 309; their reverence for the Vēdas and belief in personal communion with God, 309; Nammālvār, the fifth among them, the most famous of the Ālvārs, 309-310; Nāthamuni's anthology (9th century A.D.) of their hymns, 310.

Amphibians: in Mysore State, 118-121.

Anantakrishna Iyer, L. K.: His *Tribes and Castes of Cochin* referred to, 139-140.

Anglo-Indians: in Mysore; their religion and number, 406.

Anicuts: Irrigation by aid of; Wilks' description of; their great antiquity; Channels drawn from; their total length, 10.

Animism: The religion of Dravidians, 270-271; belief in a spirit world, 271; how far due to Pre-Dravidian influences, 271; omission of Dravidian religion in Tiele's Classification of Religions, 271; Dr. Caldwell's views, 271; his description of Dravidian religion, 271; universality of spirit worship in Southern India, 271; the various spirits worshipped, 272; they take the Goddesses worshipped as "Mothers," 272; some names quoted,

272; described as characteristic of an agricultural race, 272; indicative of maternal filiation, 272.
Animists: in Mysore; Population of, 377; *See under* Animism.
Anthropometry: as a test of race, 139-140; references to works of H. V. Nanjundaiya, Edgar Thurston, L. K. Anantakrishna Iyer, 139-140; Thurston's data criticised, 140; Sir Herbert Risley criticised, 140; Professor Risley referred to, 140.
Arboriculture: in the State; avenue trees and topes, 72.
Archæan Geology: in Mysore State, 18-19.
Ardha-Māgadhi: Sacred language of the Jains, 291.
Arkāvati; the river, 6; flows into the Cauvery, 6.
Aryans: religion of, Vēdic, 280.
Asōka, the Mauryan Emperor of the 3rd century A.D., 295; responsible for the introduction of Buddhism into Mysore, 296; his Edicts, and missionary work in the cause of Buddhism, 296.
Asvaththa: the pipal tree; a symbol of spirit worship among the Dravidians, 279.
Ayyankere; large tank at, 11.

B.

Ballantyne, Dr.: His translation of Sadānanda's *Vēdānta Sāra* referred to, 304.
Bamboo: *Hebbidaru* (*Bambūsa Arundinacea*), occurrence of, 63; small bamboo in fuel forests, 66.
Bangalore: Earthquakes at, 38; its level and temperature, 45; rainfall, 46; its observatory, 50; horticulture—the Lal-Bagh, 68; fruit trees, and other plant life at Bangalore, 69-70; Bishop Whitehead's description of a typical Grāma-Dēvata festival at Bangalore quoted from, 274-276: Christian Missionary activities at, 343, 345-347, 349-352; its Municipality, 364; literacy in, 396; insane and infirm population at, 401-402; castes and tribes in, 404-405; town-planning at, 415-418; social life in, 428-429; statistics of main castes and tribes, 440-441; tables of Public Health Statistics relating to, 469-470.
Basava: A minister of King Bijjala of the Kālachūrya line (12th century A.D.), and an accredited leader of the Lingāyats, 298, 326-327; his reform of Saivism, 327; the story of his life and his struggles with King Bijjala (*Vide* Volume II, of this work); Popular renderings of Basava's life and teachings, 328.
Basavi: Custom relating to; dedication of daughter as, 181; dedication ceremony referred to, 181; her rights and privileges described, 181; connection with adoption, 181.
Benlenger, Dr. G. A.: His classification of reptiles followed in this work, 112.
Beschi, Rev.: Missionary who, like De Nobilli, tried to live up the life of an Indian while preaching the Gospel of Christ to Indians, 344.
Bhadra Bāhu: The last of the Sruta kēvalis, 286; supposed to have introduced Jainism into Mysore, 286; his great royal disciple, Chandragupta Maurya, 286.
Bhāgavatars: Probable followers of Bōdhāyana's School, and fore-runners of Rāmānuja, 308; their doctrine expounded in the *Mahābhārata*, the *Bhagavat-Gīta*, the *Bhāgavata Purāna* and other works, 308; Dr. Thibaut's views on their cult, 308-309; the twelve Vaishnava Ālvārs, who followed the Bhāgavatars in their religious views, 309-310; Nammālvār, the most important among them, 309.
Bhandarkar, Sir R. G.: His description of Jain *Syādvāda* doctrine, 292-293.
Bhīmēsvar valley, the: the lowest point in the Mysore plateau with an elevation of 278 feet, 2.
Bhūta: A form of spirit worship, 278-279; a feature of Dravidian animistic tendencies, 279; regarded more or less as a 'family God' and propitiated as such, 279.
Bibliographies: Physical aspects, 17; Geology, 41; Meteorology, 60; Botany, 73; Zoology, 133-134; Ethnology and Caste, 248; Language, 268; Religion, 353; Population, 449; Public Health and Vital Statistics, 472.
Bilpatre (*agle marmelos*): A tree sacred to Siva, one of the Hindu Gods, 279; a symbol of spirit worship among the Dravidians, 297.

Birds: in Mysore State, 90-111.
Birth-rate: in Mysore; factors affecting it, 456; statistics of, 456-458; average for the State, 456-457; proportion of male to female births, 102: 100, 457; urban and rural birth-rates compared, 458; tables showing birth-rates from 1913 to 1925, 470.
Bishop of Mysore: Headquarters of R. C., at Bangalore, 346; his Diocese, 346.
Blanford, W. T.: His classification of mammals, as revised by R. C. Wroughton, Thomas and Hinton adopted in this work, 75; his classification of birds in collaboration with E.W. Oates, referred to, 90; his *Manual of Geology of India* quoted in favour of land connection between India and Africa, 155.
Bōdhi Sattva: Another name for Buddha, the founder of Buddhism, 296; a Bāna King of the 4th century compared to him, 296.
Botany of Mysore: Chapter iv, pages 61-73;
(i) Forest flora, 61-68; richness of the flora, 61; the area of forests, 61; Forest belts, 61-62; the evergreen belt, 61-63; the deciduous belt, 63; Dry deciduous fuel tract and scrub, 65; forests in these tracts, 62-66; Shrubs and bushes, 66; Sandal, 66-68; its distribution, 66; its growth, 67; its propagation, 67; its diseases, *e.g.*, Spike, 67-68.
(ii) Horticulture, etc., 68-70; the Lal-Bagh, 68-69; Fruit trees, 69; Vegetables, 70; Grasses, 70; Imported fodders, 70.
(iii) Crops, 70-72; classification of, 70-72; Wet crops, 70; Dry crops, 71; Garden crops, 71; Industrial and commercial crops, 72.
(iv) Avenue Trees and Topes (Arboriculture); Avenue trees and topes in the State, 72.
—Bibliography, 73.
Boucher: A French Jesuit belonging to the Telugu Mission, 342; his building of chapels at Bangalore, Chikballapur etc., 342.
Brāhmans: Their immigration into Mysore, 281; introduced by Kadamba King Mukkanna, 3rd century A. D., 281; by Pallava King Mukkanti, 281; Mr. Rice's opinion, 281; evidence from Tālgunda and Malvalli inscriptions, 281; earliest forms of Brāhman religion, 283-284; worship of Vishnu and Siva, 283-284; worship of Hari-Hara, 283-284; worship of Siva associated with Lakulīsa's name (15th century A. D.). *See under* Lakulīsa.
Brown, C. P.: His derivation of *Karnāṭaka*, 255.
Bruce Foote, Mr.: His *Pre-historic Antiquities* referred to, 137; his views regarding the ethnic elements in the modern population cited, 138.
Buddhism: Its introduction into the State by Asōka, 295; circumstances favourable to its introduction into Mysore, 296; Asōkan edicts at Siddāpura, Molakalmuru Taluk, Chitaldrug District, 296; Buddhist Missionaries in the State, 296; early Buddhist Kings in the State, 296; *vihāras* connected with, 296; its decline in the State, 297; causes thereof, 296-298; Wilson's explanation of the same, 296; Dr. Rhys David's description, 297-298; Jain predominace, a bar to the progress of Buddhism, 296-297; ceases to be of practical importance in South India from 8th century, 297.
Bukka: Vijayanagar King; effected reconciliation between Jains and Vaishnavas, 295.
Bühler, George: on Lakulīsvara's date, 284: *See* Lakulīsa.
Bunsen: His theory of the immigration of the Dravidians by the N-W.Passes of India criticised, 157, 165 *et seq.*

C.

Caldwell, Rev. Dr. F.: His view of Badaga and Kōta languages, 141; his view of Dravidian type and criticism of Hodgson's use of "Tamilian," 163; his *Comparative Grammar of Dravidian Languages* referred to, 250; application of the term *Karnāṭaka*, 256; his view of the relationship of Dravidian languages to other languages, 261.
Campbell, Colin: His translation of the Bible into Kanarese in collaboration with Rev. Benjamin Rice referred to, 349.
Campbell, Sir George: His views on the black aboriginal tribes of the hills

quoted from, 145; his opinion on the lower classes of Dravidians referred to, 160.
Campbell, Dr. T. V: A Protestant Missionary who worked in the Wardlaw Memorial Hospital, 348.
Castes: Main indigenous castes and tribes of Mysore and their racial affinities, 140-143 Caste and Race, 170-173; origin of caste, 173-174; effect of caste, 174-177; right-hand and left-hand castes, 177-180; general characteristics of Mysore castes, 181-210; caste in proverbs, 210-212; brief descriptions of main castes and tribes, 212-247; statistics of distribution of castes in the State, 406, 440-443.
Cat-fishes: *See under* Fishes; family *Siluridae*, 121.
Cauvery: the river, 5, 6.
Census Tables, 431-448: I. General statement of number of towns, villages and houses with their population, male and female in Mysore, 431; II. Variation in population since 1871, 431, 432; II A. Density of population from 1871-1921,433; III. Population distributed by Districts and Cities, 434; IV. Towns and Villages classified by Population, 434; V. Population of chief Towns in the State, 435; VI. Religions, 436; VII. Age, 436; VIII. Civil condition, 437; IX. Education, 438; X. Language, 439; XI. Statistics of Main Castes or Tribes, 440, 441: XII. Castes classified according to their traditional occupations, 442, 443; XIII. Selected occupations, 444-445; XIV. Occupations of selected Castes, 446-448.
Champion gneiss: Earliest of gneisses in Mysore State, 32-33.
Chamundi or *Mahishāsura Mardini*; name of the consort of Siva, 3; worshipped as the tutelary Goddess by the Ruling Family of Mysore, 3.
Chanbonneur, Dr. S: The first Vicar Apostolic of the Roman Catholic Diocese of Mysore, 347; his intimacy with the Royal Family of Mysore referred to, 347.
Christianity in Mysore: Early attempts at conversion in the State made by the Catholic Church, 340-341; the Jesuit activities in the State, 341-345; Catholic institutions in the State, 345-347; Protestant Missionary activities in the State, 347-352; the London Mission and its institutions, 347-349; the Wesleyan Mission and its activities, 349-351; other Churches in the State, 351-352.
Christians, in Mysore: Their introduction into the State, 340-345; their various missions and churches, 340-352; their educational and other philanthropic activities in the State, 346-350; their population in the State as per census, 375-77. *See under* Christianity.
Cholera: as a cause of mortality in the State, 458.
Church, Professor: His *Food grains of India* referred to, 424.
Cinnami, Father; A Jesuit priest, 342; made Seringapatam his headquarters of the Jesuit Kanarese Mission, 342.
Civil condition in Mysore, 390-394; its meaning, 390; marriage not only universal in the State, but takes place early in life, 390; age, statistics of, 390-391; as between the sexes, 391-392; as between the various castes and communities, 391-393; tendency to raise the age of marriage, 393; widows and widowers in the State, 394; widows and widowers among the Hindus, 394; tables relating to, 437.
Classifications and tables other than statistical: *See under* Tables and Classifications other than Statistical.
Closepet granite: in Mysore; the last of the gneiss formation, 35-36.
Coffee: cultivation of, in Kadur and Hassan Districts, 71.
Colebrook, Mr: on the effects of Caste, 175.
Comte, Mr: His appreciation of the Caste System, referred to, 175.
Craniology: as a test of race, 164-166.
Crooke: His edition of Sir Herbert Risley's *People of India*, referred to 170; his criticism of Sir Herbert Risley's theory, *Ibid.*
Crops: Principal crops in the State; classified lists of, 70-72; industrial and commercial, 72.
Curious and unusual Customs; in Mysore, 209-210. *See under* Customs.
Customs: of different castes; as to dedication of daughter as *Basavi*, 181; as to *Illātom* adoption, 182; as to *Manēvaletana*, 182; as to bride price, 182-183; as to son-in-law living in

father-in-law's house, 183; as to maternal uncle's position, 182-184; as to tying of *tāli*, 184; as to *mēnarīkam*, 184, as to breast-milk wages, 184; as to sale and mortgage of wives among Korachas and Banjaras, 186; as to divorce, 187; as to polygamy, 187-188; as to widow remarriage, 188-190; as to remarriage generally, 190-191; as to restrictions in marriage, 192-196; as to veneration paid to *totems*, 196-199; as to marital age, 199-200; as to forms of marriage, 200-204; as to marriage ceremonies, 204-208; as to funeral ceremonies, 208-209; some unusual or curious customs, 209-210; customs relating to certain specific castes, 210-247.

Cyclones: Their passage over the State, 52-53; some recorded instances of, 52-53.

D.

Dalton, Mr: His opinion *re.* the Vindhyan hill tribes quoted from, 147.

Deaf-mutism; Statistics and distribution of, 399-401.

Death-rate, in Mysore; factors affecting it, 457-459; in the districts, 458-459; comparison of death-rates among the various communities, 459; causes of infantile mortality, 459; malaria and ignorance—the potent causes, 460; tables showing, 471.

Denning, Mr: Observations of, *re.* meteors, referred to, 39.

De Nobilli: His adoption of Indian costume etc., referred to, 344.

Density of Population: in India as a whole, 356; in Mysore, 356; table showing the relative area and population of the State as compared with other Indian States, British provinces and certain countries of Europe, 356; table showing the ratio of the area and density of population in the various districts of the State, 357; comparison of the mean densities of the population in the districts with that of the State, 358; density and rainfall, 359.

De Sevarao, Fra Jourdain Catalanus; the name of the Dominican leader who tried to convert Mysore in or about 1325 A.D., 340; consecrated Bishop of Quilon at Avignon by Pope, John XXII on his return to Europe, 340; his return to India, and death at the hands of the Muhammadans at Thana near Bombay, 340.

Deussen, Professor Paul: His views about identity of Sankara's philosophy with that of the Greek philosopher, Parmanides, referred to, 302; his *Systems of Vēdānta* referred to, 304.

Devanga: Caste in Mysore, 238.

Dēvasthāna: Kannada name for a Hindu temple, 415; a feature of every town and village in Mysore, 415-416.

Dharwar schists: in Mysore, 24-32. *See under* Schists in Mysore.

Dominicans: The first among the early Catholics who made strenuous attempts to convert Mysore to Christianity in or about the year 1325 A.D., 340-341.

Dravidian Languages: Their relationship to other languages, 261-263; Dr. Caldwell's views, 261; Prof. Max-Müller on them, 262; Professor Whitney's views quoted from, 262; Sir George Grierson's opinion cited, 263; their main characteristics, 250, 263, 264; Kannada, a Dravidian form of speech, 265.

Dravidian: Problem (Ethnology); 143-170; De Quatrefage's theory, 145; his theory re-stated by A. H. Keane, 146 *et seq*; review of other theories, 149-150; special affinities of Pre-Dravidians, according to Thurston and Haddon, 150; Thurston's views quoted, 150-151; affinities of the Australians according to Prof. R. Semon, 152-153; inconveniences resulting from a loose use of the term 'Dravidian', 153-154; connection between Australia and India, 154-155; the Dravidians proper, 156-157; their origin and theories relating to it, 156-163; the theory of Craniologists, 164-166; opinions of Sir William Turner and Sir Herbert Risley, 164; criticism of same, 164-166; Sir Herbert Risley's classification of Dravidians, 166-167; criticism of same by Haddon and others, 167-169; the complexity of the problem, 170.

Dress: of the people in Mysore, 418-424; varies with caste, 418; among Hindus, especially Brāhmans, 418-422; *pēta* (or turban), a feature of the head-dress of Hindu males, 418; dress of Hindu

women, their *Sīrē* or (*Sāri*), 420; passion for ornaments among Hindu ladies, 422; Muhammadan dress, 423-424.
Drug: *doorga*, *droogs* of European writers, 3.
Dwelling houses, in the State: Their definition as per census of 1921, 363; their total number, 363; variations in their increase in the Eastern and Western Divisions of the State since 1881, 363-364; their increase on the whole commensurate with the increase of population, 364; their description, surroundings etc., 415-418.

E.

Earthquakes: in Mysore, 37-38.
Education: Statistics of, 394-398; proportion of literates who can read and write to illiterates in Mysore as per census of 1921, 394; among the various communities, 394-395; in the districts, 395-397; female literacy, progressive communities like Parsis, Jews, and Brahmōs leading, 397; according to language, 397; literacy in Kannada, 397; educational institutions in the State, 398; tables relating to, 438.
Elephants: capture of, in the State: *See under* Elephant Kheddahs.
Elephant Kheddahs: in Mysore State, 126-130.
Elliot, Mr. Robert: His description of typical instance of animal sacrifice quoted from, 276.
Elliot, Sir Walter: His derivation of *Karnātaka*, 254.
Elphinstone, Mr: on the effects of Caste, 175.
Emigration from Mysore: mostly to the neighbouring districts of Madras and Bombay, 371; to countries beyond India, to the Federated Malay States etc., 371.
Epidemics: in Mysore, 462-467; *Plague*, its early history and first occurrence in the State, 462-464; anti-plague measures adopted by the State, 464-465; *Influenza*, 465; its first occurrence in the State, 465; statistics of attacks from the disease, 466; its highest mortality both among males and females at the age-period 20-30, 466; its decrease since 1918, 467.
Ethnographic Survey of India: referred to, 139.
Ethnographic Survey of Mysore: referred to, 139-140; 140-141.
Ethnology and Caste in Mysore: Chap. VI. pp. 135-249; pre-historic races in the State, 135-138; their relation to modern population, 138; the three primary ethnic elements in the modern population, 138-139; anthropometry as a test of race, 139-140; the main indigenous castes and tribes and their racial affinities, 140-143; Southern India, an ethnological block, 143; the Dravidian problem, 143-145; theories *re* the origin of the Pre-Dravidians, 145-150; De Quatrefage's theory, 145-149; review of other theories, 149-150; Racial affinities of Pre-Dravidians, 150-156; The Dravidians proper and the theory of early Philologists, 156-164; the theory of the Craniologists, 164-170; caste and race, 170-173; origin of caste, 173-174; effects of caste, 174-177; Right-hand and Left-hand castes, 177-180; general characteristics of Mysore castes, 181-210; Mother-kin, 181-184; Pre-marital communism, 185-186; Post-marital license, 186-187, Divorce, 187; Polygamy, 187-188; widow remarriage, 188-190; Form of remarriage, 190-191; influence of religion on caste morals, 191-192; Restrictions on marriages, linguistic, territorial and other, 192-196; totemism, 196-199; Marital age among the castes, 199-200; Forms of marriage, 200-204; by purchase of bride, 200-202; relics of marriage by capture, 202-204; marriage ceremonies etc., 204-205; other minor characteristics of the castes in Mysore, 205-208; Funeral ceremonies, 208-209; some unusual or curious customs prevalent in the State, 209-210; caste in some popular proverbs, 210-212; brief descriptions of main castes and tribes of Mysore, 212-248; general introduction to, 212-213; Banajiga, 213; Beda, 213-214; Bestha, 214-215; Brāhman, 215-226; Golla, 226-227; Kādu Golla, 227-228; Holeya, 228-229; Jain, 229-230; Kuruba, 230-231; Lingāyat, 231-234; Mādiga, 234-237; Neygi, 237; Devanga and Khatri, 238; Patvēgar, 238-239; Sāle,

239; Sowrashtra, 239; Seniga and Togata, 240; Pānchāla, 240-241; Uppāra, 241; Vodda, 242; Vokkaliga or the cultivating caste in Mysore, and the various sub-sections of it, 242-247; Bibliography, 248-249.
Europeans: in Mysore; their religion and number, 406.

F.

Farquahar, Dr. J. N: His opinion on the religious basis of caste, 177.
Fevers: as a cause of mortality in Mysore, 457.
Fishes: in Mysore State, 121-126.
Fleet, Sir John: His date for Sankara (between 625 and 655 A. D.), referred to, 299.
Flora; richness of, in Mysore, 61-68; *See under* Botany.
Flower, Dr.: view of, *in re* Dravidians and Veddas referred to, 161.
"Flying Dragon": A reptile belonging to the Zoological family *Agamida*, 113-114.
Food: of the majority of lower ranks of people; *Ragi* (*Eleucine Coracana*), 424; Mr. Forbes Watson on the food value of ragi, 425; *Rice*, the staple food grain of the Brāhman classes, 425; vegetables of many kinds, including greens, consumed by all classes of people, 425; spirituous liquors, *Sārāi*, drunk by the lower classes, 428; *Gānja* or *bhangi*, 428.
Forests: in Mysore; Area of, 61; *see* Volume III.
Forest flora: in Mysore State, 61-68, *See under* Botany in Mysore.
Forests and Plantations: Area of, 61; *see* Volume III.
Foxes: as food for some lower caste men in the State, 426.
Franciscans in Mysore: A sect of clergymen mostly of the Catholic church who brought the Gospel of Christ into Mysore, 341; their frequent congregations at Seringapatam referred to, 341.
Fruit trees: in Mysore State, 69; list of English fruit trees at Bangalore, 69. *See* Volume IV.
Function: community of, as basis of caste, 174, 178, 179; determination of, by birth, 178-179; table showing the occupation of various castes, 442-443. *See under* Occupations and Caste.
Funeral ceremonies: Among Hindu castes, 208-209. *See under* Ethnology and Caste.

G.

Gait, Sir Edward: His opinion *re.* the use of the expression 'Aryan', 172; his views on the sub-division of castes, 179; his suggestion that exogamy in Hinduism is probably a survival from earlier culture, 193; his opinion on *gōtras*, and tracing one's descent from *Gōtras* referred to, 194.
Gamble, Mr. J. S: His opinion on the spiny bamboo flowers (*Bambara arundinacea*), referred to, 427.
Game Law: in Mysore State, 130; general outlines, 130-131; definition of "game," 132; penalties under the Mysore Game and Fish Preservation Regulation, 132; under Madras Act I of 1873 (Elephants), 132.
Gardener's Chronicle, referred to, 427.
Garret, Rev. J: Wesleyan Missionary, who improved Kannada typography, 350.
Geology of Mysore, chapter ii. pp. 18-41.
(i) Archæan Geology, 18-20; the Age of the geological formation of Mysore, 18; order of succession and relative ages of the formations, 18-19; the Archæan character of Mysore rocks and their area, 19; Map showing the distribution of rocks in Southern India; (*Vide* Vol. IV.). Table of formation of rocks in Mysore, 20.
(ii) Post-Archæan Geology of Southern India, 21-24; the story of Post-Archæan rocks, 21; Blank in the geological history of Southern India, 21-22; the close of the Carboniferous period, 22; the close of the Gondwana epoch, 23; the end of the Cretaceous period, 23; Summary, 23-24.
(iii) The Dharwar system, 24-32; the oldest rocks in Mysore, 24; the Dharwar Schists, 24-25; Igneous and other types of the Dharwar Schists, 25; Conglomerates, 25; Banded ferruginous quartzites, 25-27; Quartzites, 27; Limestones, 28; summary, 28; Ultra-basic

intrusives, 29; other intrusives, 29; Distribution of the Schist Belts, 30-32; Kolar Schist Belt, 30; Chitaldrug Schist Belt, 30; Hassan Schist Belt, 31; Shimoga Schist Belt, 31-32; Other Schist Belts, 32.
(iv) Granites and Gneisses, 32-37; Champion gneiss, 32-34; Peninsular gneiss, 34; Charnockite, 35; Closepet granite, 35-36; Dykes, 36; Laterite, 36; Tabular view of Mysore rocks, 36-37.
(v) Earthquakes, 37-38; Their occurrence in the State, 37-38.
(vi) Ærolites; Recorded instances in the State with details thereof, 38-40; Bibliography, 41.
Gersoppa Falls: referred to, 6.
Gneisses, various types of 32-35; the Champion gneiss, 32-34; the Peninsular gneiss, 34-35. *See under* Granites.
Gold: in Mysore; its presence in Kolar indicated, 30.
Golla: the cowherd caste in Mysore State, 226-227. *See under* Kādu Gollas.
Grāma-dēvata: village goddess; various names of, 272; a form of spirit worship prevalent among the Dravidians, 273; supposed to preside over villages, and ward off epidemics of cholera, smallpox etc., 273; beings of most uncertain temper, and a source of constant terror to the villagers, 273; Bishop Whitehead's theory as to the origin of, 273; a local divinity different from others with the name of "mother" or a special name, 274; how represented—by an image, a shapeless stone or some other symbol, 274; in some cases even by a post or a pot of water, 274; often invoked by villagers, especially when her presence is needed in a temporary hut or *pendal*, 274; offerings made annually in the shape of animal sacrifice, 274; Bishop Whitehead's description of a typical instance at Bangalore, 274-276; description of another instance by Mr. Elliot, 276; origin of, 276; its totemistic origin referred to by Bishop Whitehead in his *Village Gods of India*, 276-278; other features of Grāmadēvata worship—hookswinging or *Sidi*, the bridled mouth, *bhūtas*, the worship of plants and trees, *e.g.*, *bilpatre*, etc., 278-280.
Granites: the Charnockite, 35; the Closepet granite, 35-36; table showing view Mysore rocks, 36-37. *See under* Gneisses.
Grasses in Mysore: indigenous, 70; imported, 70.
Grierson, Sir G. A: Linguistic survey of, 251; his description of region in which Kannada is spoken, 256-257; his view of Dravidian family of languages, 263.
Gundal: the river; flows into the Cauvery, 6.
Gundert, Dr.: His derivation of *Karnātaka*, 254.

H.

Haddon, Professor C: His criticism of Sir Herbert Risley's classification of Dravidians, 167.
Hagari: the river, also known as the Vēdāvati, 6.
Haidar Ali: of Mysore; His hunt for elephants referred to, 126; his conquest of Nagar in 1763 referred to, 342.
Hamilton, Buchanan: His account of the manner of hunting the cheeta, referred to, 79.
Hands, Rev; A Christian Missionary under whose direction Kanarese type was first cast, 349; his collaboration with Mr. Reeves in the edition of a Kanarese version of the *Bible*, 349.
Hardwicke College: in Mysore; established in 1898 by the Wesleyan Mission for the education of Indian Christians, 350.
Harvest Field, the: a monthly periodical issued by the Wesleyan Mission Press at Mysore since 1890, 35.
Hēmāvati: a river, 6; its affluent Vegveti, 6; joins the Krishna beyond Mysore limits, 6.
Heyden, Dr: on Indian Earthquakes, 37.
Heyne, Dr. Benjamin: Account of an earth-quake at Tumkur on 23rd October 1800, 37-38.
Hinduism in Mysore: The creed of the vast majority in the State; Vēdi Hinduism, the religion of the Aryans, 280; its introduction into South India, 280-281: Brāhman immigration into Mysore, 281; Mr. Rice's opinion thereon, 281-282; development of Vēdic Hinduism, 282; Prof. Hopkins' views

regarding same as set out in his *History of Religions*, 282-283; light from Mysore inscriptions, 283-284; Mr. Rice's views, 283-284; Later Hinduism—the result of gradual evolution from the early stages, 298; the various Brāhman sects centred round the worship of new divinities like Siva and Vishnu, 298; the three great teachers of the South—Rāmānuja, Sankara, and Madhva, 298; Smārtas, 299; Sankara's followers 299; Sankara's early life and works, 299-304; Srī Vaishnavas and their antiquity, 308, Bhāgavatas and Ālvārs, 308-310; Nāthamuni and his successors, 310-311; Rāmānuja, the founder of Srī Vaishnavism, 311; his early life and career, 311-313; his flight to Mysore, 313-314; his system of Vēdānta—*Visishtādvaitism*, 315-316; later history of Srī Vaishnavism, 315. Mādhvas, the third great Brāhmanical sect, 317; also known as Sad-Vaishnavas, 317; Madhvāchārya, their founder, his life, and early career, 318; his works, 318; his system of Vēdānta known as *Dvaitism*, 319-320; their *Mutts* and *āchāryas*, 320-322. *Vīra Saivas*, a popular Hindu sect in the State, 322; what it is and how it came to be, 321-323-325; the Pāsupatha system, 324-325; its spread in the State, 325; Basava and his teachings, 326-328; Vīrasaiva doctrines, 329-331.

Hinton, Mr: His revision of W. T. Blanford's classification of Mammals referred to, 15.

Hodgson, Mr: His views on the Tamilians quoted from, 162-163.

Hodson, T: in collaboration with Rev. J. Garret of the Wesleyan Mission was largely responsible for the improvement of Kanarese types, 350.

Holeya: The chief Agricultural labourers in the State; account of, 228-229.

Holland, Sir Thomas: His account of Post-Archæan rocks summarized, 21-24; his work in connection with Charnockite, 35.

Honnu Hole: the stream; flows into the Cauvery, 6.

Hopkins, Professor; His *History of Religions* referred to, 282; his explanation of the development of Vēdic Hinduism 282-283; his views regarding Jains referred to, 286.

Horticulture: in Mysore: *See under* Botany Chapter IV; 68-70.

Hot season: in Mysore: April and early part of May, 44; Maximum temperature, during, 44-45.

Houses. *See under* dwelling-houses in Mysore.

Hultzsch, Dr. E: His reference to oldest specimen of Kannada in a Greek play preserved in a papyrus of 2nd century A. D., 258.

Hume, Dr. R. E: His *The World's Living Religions* referred to 333.

Hunter, Sir W. W: Theory of the immigration of the Dravidians by the N. W. Passes of India criticised, 165 *et seq.*

Hydrography: of Mysore, 10-11.

I.

Immigration in Mysore: From provinces of British India, 367-368; mostly from the districts of Madras, Bombay and Coorg, 368; from beyond India, 369; main incentives for immigration—trade, commerce, missionary work, etc., 369; into particular cities, 367-370; 370; inter-district, 370-371.

Indo-African-Austral Continent: Evidence of former existence of, 161.

Infantile Mortality in Mysore, 459-462; roughly about 1 among 5 children born does not survive its first year of life, 459; causes of heavy mortality in the State, 459-461; infantile mortality as an index of standard of Public Health, 461; measures to guard against it, 460-462.

Islam: The religion of the Muhammadans, 331; its first introduction into the State in 1310 (?) by Malik Kafur, 331-332; permanent settlement of, in Mysore, 332; its founder and his teachings referred to, 333; its sacred book, the *Korān*, and its teachings, 334-335; the essential beliefs of *Islam*, 335-336; Muhammadan festivals observed in the State, 336; the four sects among the Muhammadans, 336; distribution of Muhammadans in the several districts of the State, 337; sects among Muhammadans in the State and their customs and manners, 338-340.

J.

Jacobi, Professor Hermann: His explanation of *Syādvāda* Doctrine, 292; his theory regarding the derivation of the doctrine of *Māya* or cosmic illusion referred to, 803.

Jagat or *Jagad Guru*: The name of the *Swāmi* or head of the principal *Mutt* established by Sankarāchārya at Sringēri, 306; his estates, 306; his relations with the State, 306; traditional succession list of the *Gurus* of the *Mutt*, 306.

Jagor, Dr. F: His collection of anthropological data of the aboriginal tribes in the Madras Presidency, referred to, 147.

Jainism: in Mysore, 284-295; its existence in Mysore brought to light by Col. Colin Mackenzie of MSS fame, 284; who and what they are, 285-286; their immigration into Mysore, 286; their introduction into the State supposed to have been effected by Bhadra Bāhu, the last of the Srutakēvalis, 286; this theory examined by Mr. Rice and Sir Vincent Smith, 286-287, Sravana Belgola in Hassan District, the principal seat of the Jains, 287; their *Guru* at Sravana Belgola, 287; their *Mutts*, 287-288; traditional list of their *gurus*, 287-289; their sects, 289; their moral code, 290; their ritual, 291; their sacred books; their philosophical tracts and their doctrine of *Syādvāda*, 291-292; Jacobi's explanation of *Syādvāda*, 292; Bhandarkar's description of it, 292-293; view of Jain Pandits, 293; Jain *Tīrthankaras*, 293; list of them, 293-294; Jain Purānas; 294; history of Jainism in Mysore, 294-295.

Jains: Derivation of name, 285; *See under* Jainism, 284-295 their early name *Nirgranthas*, mentioned in edicts of Asōka, 291; by Brāhmans designated, Syādvādins, 291; Mahāvīra, founder of their religion, (484 B.C.), 285; their beliefs, 285; *Tīrtānkaras*, their objects of veneration, 285, 293-294; their population in Mysore, 377-378.

Jerdon, T. C: His opinion *re* the painted bat (*kerevoula picta Cantor*), referred to, 84.

Jespersen: on change in languages. quoted, 159.

Jesuit Missions in Mysore: *See under* Missions.

K.

Kabbani: the river; flows into the Cauvery, 6.

Kādu Golla: A unique caste in Mysore; supposed to be immigrants from Delhi, and its neighbourhood, 227; their language, 227; the totemistic origin of their Septs, 227; their customs and manners, 227-228; their religion and gods, 228; *Golla Gaūda*, their usual caste title, 228. *See under* Golla.

Kalinga: Colonization of Java and Sumatra by people of, 155; inscriptions of, 155; ancient name of a kingdom on the east coast of India, 156; Migration from Kalinga to Strait Settlements, 155-156.

Kan: Ever-green forests in North Western parts of Shimoga District, 4.

Kannada: Dominant language of the State, 251; belongs to Draviadian group of languages, 251; various views on the derivation of the name, 254-256; region in which it is spoken, 256-257; number of people speaking it and its dialects, 251, 257; its colloquial and literary dialects, 257-258; its written characters, 259-260; Early Kannada authors, 265; Ancient, Mediæval and Modern Kannada, 265-267.

Karnāta: Occurrence of the name in Varāhamihira's *Brihatsamhita* (6th century A.D.) and other works, 255; Alberūni's use of the term, 255.

Karnātaka: Derivation of name, 254; views of Gundert, Sir Walter Elliot, Kittel, Rice, Brown etc, 254-255, Caldwell's note on the use of the term, 256.

Kashmirian Saivism: influence of; Schools of *Saivism* in Kashmir, 324; contributed to the growth of *Vīra Saivism* in the South 324; its spread in Mysore, 325.

Keane, Dr. A. H: His re statement of De Quatrefage's theory of the widespread dissemination of the Negrito race, 146; his argument summarised 186-149; his views on development of languages, 158-159; his criticism of

Sir Herbert Risley's Classification of Dravidians, 167-169.
Keith, Dr. A. B.: on the development of the doctrine of *Māya*, 303.
Khatri: A caste of immigrant silk-weavers, 238.
Kheddahs: *See under* Elephant Kheddahs.
Kittel, Rev. F.: His derivation of *Karnātaka*, 254; his description of *Ancient Kannada*, 265-266.
Koerbin, Dr.: His collection, with the help of Dr. F. Jagor, of the data relating to the aboriginal tribes in the Madras Presidency, 147.
Kolar Gold Fields: Its extent, etc., 30.
Korān: The Sacred book *of Islam*, 332, 334; its structural arrangement and composition, 334; teachings contained in, 334-336.
Kumārila Bhatta: A contemporary of Sankara (8th Century A.D.), 300; Mandana Misra, his eminent disciple, 300.
Kuruba: A caste of shepherds and blanket-weavers in Mysore; account of, 230-231.

L.

Lakshmanatīrtha: A river; flows into the Cauvery, 6.
Lakulīsa: A famous teacher who inculcated Siva worship (15th century A.D.); named in Mysore inscriptions, 284; his religion called variously *Lakulāguna*, *Lakulāmnaya*, *Lakulasamaya*, etc; Mr. Rice's opinion that there should have been succession of teachers of that name, 284; according to Bühler, Lakulīsvara, founder of Pāsupata sect, belonged to Lāta Country (11th Century A.D.).
Lal-Bagh: Public gardens at Bangalore; Collection of rare plants and trees at, 68-69.
Language in Mysore, Chapter vii, pp. 250-268; Linguistic progress in Mysore, 250; Dravidian race and languages, 250-251; chief languages of the State, 251-252; minor languages of the State, 252-253; Kannada, the distinctive language of the State, 253; *Karnātaka*, its derivation, 254-256; region in which Kannada is spoken, 256-257; dialects of Kannada, and the people speaking the language, 257; the literary and colloquial dialects, 257-259; the written characters of Kannada, 259-260; the Dravidian languages and their relationship to other languages, 261-263; the main characteristics of the Dravidian forms of speech, 263-264; the four classes of words, 264-265; early Kannada authors, 265; Ancient, Mediæval and Modern Kannada, 265-267; Bibliography, 268; Census Statistics, 398-399; table of languages in Mysore, 439.
Language: as a test of race; referred to, 250-251.
Laoænan, Mgr, of Pondicherry: His *Du Brahmanisme et de ses rapports avec le Judaisme et le Christianisme*, referred to, 341.
Lapicque, M. Louis: His views on the Negritoes, 150.
Lassen: His designation for the three main streams which spring in the immediate neighbourhood of Nandidurga, the Pennār, the Ponnaiyar and the Pālar—*die Tripotamie des Dekhans*, 6.
Laterite: in Mysore; its recent (Tertiary) formation, 36.
Leprosy: Statistics relating to, in the State, 399-400, 402, 403; in the districts and in important towns like Bangalore and Mysore, 402; its predominance in some taluks of the State like Doddballapur, Anekal and Srinivaspur, 403.
Lingāyats in Mysore: also called *Vīrasaivas*, 322-323; their religion, its early history and growth, 323-326; revival during the time of Basava, 326; Basava's religion, 326-328; doctrines and sacred books of, 328-331.
Logan, Mr.: His theory regarding the date of Sankara referred to, 299.
Lōkapāvani: The river, 6; flows into the Cauvery, 6.
Lyall, Sir Alfred: His views on Caste system quoted from, 176-177.
Lydekker, Dr.: View of, *re* Dravidians and Veddas referred to, 161.

M.

Mac Donnel, A. A.: His view that 788 A.D. might be accepted as the date of Sankara's birth referred to, 301.

Mackenzie, Colonel Colin: of MSS fame, who conducted the Mysore Survey in 1799, 284; brought to light the existence of Jains in the State, 284.

Madhvāchārya: The founder of the Madhva Sect in South India, 298, 317; his date 1238-1317 A.D., 317; his early life and career, 317; his literary works and their features, 318; his system of *Vēdānta* known as *Dvaitism*, 319-320; the *Mutts* founded by him, 320-322.

Mādiga, the Chuckler or Cobbler caste in the Mysore State; account of, 234-237.

Mahadēva Sastri, Mr.: His translation of Sankara's commentary on '*The Bhagavadgīta*' referred to, 301.

Mahāvīra: Founder of Jainism (484 B.C.), 285. *See under* Jains and Jainism, 284-295.

Mahā-vratas: of Jains; explanation of, 290.

Mahishamandala: The country round about Mysore into which the *Theras* or Buddhist Missionaries of Asōka preached their doctrines, 296.

Maidan: One of the two separate regions into which Mysore State is divided, 3; description of, 4-5; its forests and flora, 61, 65; its fauna, 74; variation in its population, 360-363; Public health in, 450.

Malaria: Deaths due to, in Malnad, 452-453. *See under* Malnad.

Malnad: One of the two separate regions into which Mysore is divided, 3; situation and description of, 4; contrasted with Maidan, 4-5; its forests and flora, 61-64; its fauna, 74; depopulation of, 362-363; Public health in, 450-451; results of investigations in, 451; factors affecting it, 451-452; malaria in, 453; marriage less fertile in, 453; ameliorative methods adopted in, 458.

Mammals: 75-90; Classification of W. T. Blanford as revised by R. C. Wroughton, Thomas and Hinton followed, 75.

Mandana Misra: Disciple of Kumārila Bhatta, 300; his disputation with Sankara, 300.

Mango-showers: Showers that fall during March, April, and May, 47.

Marāthi, the language: Parts of the State where it is spoken, 251-252; number of people speaking it, 399.

Marriage: as an institution in Mysore, 181-205; its universality, Pre and Post marital communism, 185-186; divorce, not a universal institution, 187; polygamy in the State, 187-188; widow re-marriage, 188-190; form of re-marriage, 190-191; influence of religion on it, 191-192; restrictions on marriages-linguistic, territorial and other, 192-196; marital age among the higher castes, 199-200; forms of marriage, 200-204; purchase of bride, 200-202; marriage by capture, 202-204; marriage ceremonies, 204-205.

Marsh Crocodile: or the 'Mugger,' found in abundance all along the Bhadra and the Cauvery, 112.

Masur-Madaga-kere: in Shimoga District, large tank, 11.

Matthew, Rev. John: Opinion of, on first occupation of Australia by the Papuan race, 154; modified by crossing with later immigrants from India, 154.

Maudit, Father: A French Jesuit belonging to the Telugu Mission who, in conjunction with another accomplice of his, Boucher, built a few chapels in the State, 342.

Māya, or the doctrine of cosmic illusion: Sankara's great contribution to Hindu philosophy, 302-305.

Max-Müller, Professor F.: Theory of the immigration of Dravidians by the N. W. Passes of India, 105; same criticised, 165 *et seq*; his theory that *Kannada* is one of the Turanian languages, 262; his opinion regarding the date of Sankara's birth referred to, 299.

Mecca: (the pilgrimage to, *Haj*), every Muhammadan is required to go at least once in his life-time, 336; the conditions of the pilgrimage referred to in the *Korān*, 336.

Meredith Townsend: His essay entitled the "Arabian Prophet" in his *Asia and Europe* referred to, 333.

Meteorology of Mysore: Chapter iii, pp. 42-60; introductory, 42-43; temperature, 43-45; rainfall, 45-47; seasonal distribution of rainfall, 47; sunspots and rainfall in the State,

48-49; Periodicity in rainfall gauged at Tumkur, 49; rainfall and droughts in the State, 49-50; Pressure, 50-51; Wind Velocity, 51; Humidity, 51; Cloud, 51; Cyclones, 52-53; Tables, 54 59; Bibliography, 60.

Migration: of two types; Immigration and Emigration, 367; immigration mostly from the neighbouring districts of Bombay, Madras and Coorg, 368; Emigration mostly to the districts of Madras and Bombay, 371; to the Strait Settlements, 371; Comparative Statistics, 371-372. *See under* Immigration in Mysore.

Mill, Mr. James: His denunciation of Caste system as a political blunder, referred to, 174.

Missions, Christian, in Mysore: of the Jesuits from Portugal and France, 341-347; their progress checked for a time by Tipu, 343; renewed activities of the Jesuits under Abbé Dubois, 344; their educational and other institutions in the State, 345 346; the London Mission, its centres and sphere of influence, 347; its educational and other kinds of work, 348-349; the Wesleyan Mission, 349; its strength, 350; its religious and educational activities, 350-351; Church of England and its activities among the Military and European population, 351; its educational institutions, 351; the Church of Scotland and its institutions, 352; American Methodist Episcopal Churches, 352; the Zenana Mission, 352; the Leipzig Lutheran Mission and its work in Bangalore, 352.

Monsoons, in the State: Period of, 47-48; the South West Monsoon and its commencement in June, 47; its retreat beginning from October, 48; the North East monsoon period, 48; its mean seasonal total for a period, 8·17 inches, 48. *See under* Rainfall.

Moti Talab: Large tank at, in Mysore District, 11.

Mountain Systems: in Mysore; their extent, 11; their greatest elevation, 12; the hill ranges of the table-land, 12; General view of the Eastern and Western Ghat ranges, 13; table showing the heights of peaks in the two systems, 14-15; ancient fortifications on these heights, 16.

Muhammad: The founder of Islam, 333; his life-history referred to, 333; the connotation of the name of his religion, 'Islam,' 333; the essential features of his doctrines, 333-336.

Muhammadans, in Mysore: Followers of Muhammad; their early history and introduction into the State, 331-333; their Prophet and literature on his life, 333; significance of their name and their religion, 333; their sacred book, *Korān* and teachings contained therein, 333-336; their important festivals in the State, 336; sects among them, 336-337; distribution of the sects in the various districts, 337-338; their minor sects and an account of them, 339-340; total number of Muhammadans in Mysore, 374; increase in the population of Muhammadans since 1881 and some reasons for the same, 375.

Muharram: A Muhammadan Season of lamentation correctly observed in the State, 336.

Muir, Sir William: His *Life of Mohammad* referred to, 333.

Mulberry: *Morus indica*; cultivation of, 71.

Mysore Rocks: Tabular view of, 36-37.

Mysore: State of, 1; its physical aspects, including situation, area, boundaries, elevation, hills and valleys, etc., 1-3; origin of name, 3; its natural divisions, 4; its river systems, 5; its irrigation, 10; its tank system, 10-11; its moun tain systems, 11-13; Oldham's opinion on its Physical Geography, 16; its Geological features, 18; its Meteorological features, 42; the leading castes in it, 212-242; its Botanical features, 62; its Zoological features, 74; its Ethnology, 135; languages spoken in it, 250; religions professed in it, 269; its population, 354; general characteristics of its people, 413; dress and ornaments used by them, 420-424; differences in their social functions, 428-429; dietary, 424-428; social life, 428-430; Statistics of its population, 431-448; particulars relating to its Public health and Vital Statistics, 450-471.

Mythic Society: at Bangalore; its *Quarterly Journal* referred to, 340; its first President and Founder, Rev. Father A. M. Tabard, 347.

N.

Nagar: The minor streams of, 6.
Nambuttiri: An orthodox Brāhman community in Malabar, 299-300.
Nanjundaiya, Mr. H. V., M.A., C.I.E.—His Ethnographic Survey of Mysore referred to, 139.
Nāthamuni: An anthologist of great repute among the Srī Vaishnavas (9th century A.D.), 310; his influence over Srī Vaishnavism, 310; laid the foundations for the future division among the community as *Vadagalais* and *Tengalais*, 310; his grandson, Yāmunāchārya known also as Ālavandar, who did much to advance Srī Vaishnavism, 310; his works, 310-311.
Neygi: the common occupational name of a number of castes engaged in silk and cotton handloom-weaving industry in the State, 237.
North-West Passage Theory: *See under* Dravidian Problem; theory of Dravidian immigration into India by way of the North-West passes examined, 156-163.

Oates, E. W.: His classification of birds in collaboration with W. T. Blanford referred to, 90.
Occupation: Statistics of, in Mysore, 407-408; Agriculture, the principal means of subsistence, for 80 per cent of the people, 407; trade and commerce, a secondary occupation for 4·38 per cent, 407; in the districts, agriculture predominates, 407; tendency to desert traditional callings—the result of modern civilization, 407; table showing the percentage of dependants to actual workers, 408; table of occupations, 442-448.
Oldham, Mr. R. D.: Opinion regarding the physical geography of Mysore, 16.

P.

Pālar: the River, 5, 6.
Pānchāla: the collective name of the artizan caste of goldsmiths, blacksmiths, stone-cutters and carpenters in Mysore, 240-241.
Patēls: Village headmen; rural statistical officers, 455.
Pathak, Mr.: His opinion regarding the date of Sankara's birth referred to, 299.
Patvēgar: A caste of silk-weavers in Mysore State, 238-239.
Pāsupathas, the: A Saivite sect mentioned in very early literature including the *Mahābhāratha* (*Sāntiparva* and the *Vāyu*, *Kūrma*, and *Linga Purānas*), and said to have been living about 200 B. C., 324; their founder, Lakulīsa, 324; the frequent occurrence of his name in Mysore inscriptions referred to by Mr. Rice, 324; their four schools of thought, 324-325; their immigration into the State of Mysore, 324-325.
Peninsular gneiss: in Mysore; under this the Dharwar system and the Champion gneiss, 34.
Pennār: The two rivers of this name 5, 6.
Physical aspects of Mysore: Chapter 1 pages 1-17; its situation and area, 1-2; its boundaries, elevation, hills and valleys, 2-3; origin of name "Mysore", 3; its natural divisions, 3-5; the Malnad, 3-4; the Maidan, 4-5; a general view of the open country, 5; its river systems, 5-6; watershed and the axial line, 6, 7; the limits of its river basins, 7; the total length of its main rivers, 7; navigation on the rivers, 8-9; rafts and ferry boats, 9-10; irrigation from the rivers, 10; its tank system, 10-11; spring heads or *talpargis*, 11; its mountain systems, 11-16; the hill ranges of the tableland, 12-18; general view of the Eastern and Western Ghat ranges, 13; table showing the heights of the peaks, 14-16; opinion regarding its Physical Geography, 16; Bibliography, 17.
Pickering, Professor H. W.: His opinion (from his *Popular Astronomy*) cited on the character of meteorites, 39.
Plague in Mysore: Features characterising it, 462; its introduction into the State, 461; climate of Mysore and its influence on, 463; anti-plague measures adopted by the Government, 464.
Polygamy: in Mysore; rare as elsewhere in India, 187; special occasions when permitted, 188; compulsory polygamy among Banjaras, 188; penalty for adopting the custom in some other castes, 188.

Polyandry: Its non-existence in Mysore referred to, 181.

Pope, Dr. G N.: His opinion on Todas' origin, 142; his views regarding the Indo-European relationship of the Dravidian languages, 261.

Population of Mysore: Chapter IX, pp. 354-449; its composition, 354-355; area and population of the State, 355-360; variation in the population, 360-363; "Dwelling" and occupied houses in the State, 363-364; towns and villages, 864-367; migration, 367-372: (*a*) Immigration, 367-371; (i) from provinces of India, 367-368; (ii) from beyond India, 368-369; (iii) into particular cities, 369-370; (iv) into particular districts, 370; (v) inter districts, 370-371; (b) Emigration, 371; (*c*) Comparative Statistics of the population, according to castes, communities and creeds, 371-378; according to age and sex, 378-390; the 'civil condition' of the people, 390-394; marriages and institutions prevailing in the State, (*vide* Chapter VI) education in the State, 394-398; languages of the population, 398-399; infirmities, 399-408; caste, tribe or race of the population, 403-407; Hindus, 404-406; Muhammadans and Christians, 406-407; occupations, 407-408; population and means of subsistence in the State, 409-413; general characteristics of the people, 413-415; dwellings in towns and villages, 415-418; manners in dressing, 418-424; food of the people, 424-428; social life of the people, 428-430; Tables, 431-448; Bibliography, 449.

Population of the State: variations in the; causes affecting it during the last 50 years, 360-363; tables relating to, 431-435.

Post-Archæan Geology: of Southern India, 21. *et seq.*

Pre-Dravidians: Their racial affinities according to Thurston and Haddon, 150; their religion, 270. *See under* Pre-historic Races.

Pre-historic races: in Mysore State, 135-139; their remains, 135; Palæolithic man in Mysore, 135, 269; neolithic man, 135-136, 269; Iron age man, 136-137, 269-270; Bruce Foote's *Pre-historic Antiquities* referred to, 137-138; their relation to modern population, 138.

Protestant Missions in Mysore State: *See under* Missions.

Public Health and Vital Statistics of Mysore: Chapter X, pp. 450-472; conditions in the Maidan and Malnad Districts, 450-451; results of investigation carried on in the Malnad in connection with the inauguration of a scheme of improvement, 451; factors affecting the Malnad, 451-455; ameliorating measures adopted in Malnad, 455; variation in population since 1901, 455; Registration of Vital Statistics in Mysore, 455-456; birth-rate and factors affecting it in the State, 456; average birth-rate for the State, 456-457; proportion of male to female births, 457; mortality and principal causes thereof, 457-458; urban and rural birth-rates, 558; death-rate and factors affecting it in Mysore, 458-459; causes of infantile mortality, 459-465; infantile mortality as an index of the standard of public health, 461-462; Epidemics in the State, 462-467; Plague, 462-464; Anti-plague measures adopted in the State, 464-465; Influenza, 465-467; conclusion, 467-468; statements, 469-471; Bibliography, 472.

Puttanna Chetty, Rajasabhābhūshana Diwān Bahadūr Sir K. P., KT., C.I.E.: His report on *the Lingayat Mutts* referred to, 234.

R.

Rafts and ferry boats: navigation on rivers, 8-9; Basket boats, 8; Buchanan's description of Haidar's attempt at navigation on the Tunga, 8-9; *teppa*, 9; *harigōlu* or coracle, 9; Herodotus' description, 9; use of similar boats in Italy and Britain, 9.

Rainfall in Mysore: Average annual rainfall for the whole State, 36·12 inches, 45; its local distribution, 45-46; Augumbi in Shimoga records the heaviest total rainfall for the year, 317 inches, 46; the lowest average annual rainfall in Chitaldrug District, 46; average annual rainfall for the river basins, 46; seasonal distribution of rainfall, 47; the monsoons, 47, 48;

relation beween sunspots and rainfall in the State, 48-49; periodicity in rainfall gauged at Tumkur, 49; total rainfall and droughts in the State, 49, 50. *See under* Seasonal Rainfall in Mysore.

Rāmānuja: the founder of a Hindu Sect known as Srī Vaishnavas, 308; mainly responsible for the spread of Vaishnava influence in the North and South, 311; also evolved a coherent system of philosophy, 311; his birth, early life, and career, 311-313; his flight to Mysore and relations with the rulers of the time, 313-314; his system of *Vēdānta* known as *Visishtādvaita*, 315-316.

Rāmasāgara: Large tank at, in Kolar District, 11.

Ramzan: or Ramadan, a Muhammadan fast kept for thirty days, 336.

Rangacharya, Prof. M: His translation of the *Vēdānta Sūtras* referred to, 312.

Reeves, Rev. W.: A Christian Missionary who is remembered for his compilation of the earliest *Karnātaka-English* and *English-Karnātaka* dictionaries, 349; also author of a Kannada edition of the *Bible*, 349; his *Kanarese-English* Dictionary referred to, 351.

Religion in Mysore: Chapter VIII, pp. 269-353;

(i) General, 269-270; Pre-historic religion, and Neolithic man, 269; the Iron age man, 269-270; Pre-Dravidian religion, 270.

(ii) Animism, 270-280; Dravidian religion, 270-272; Spirit worship: *grāmadēvata*, 273-274; a typical *grāmadēvata* festival as described by Bishop Whitehead of Madras, 274-276; origin of *Grāmadēvatas*, 276-278; other features of animism in Mysore, 278-280.

(iii) Vēdic Hinduism, 280-284; what it is, 280-281; Brāhman immigration into Mysore and their influence on the religion of the State, 281-282; development of Vēdic Hinduism, 282-283; light thrown by the Mysore inscriptions on the religious development of its people, 283-284.

(iv) Jainism, 284-295; its origin and early history, 284-286; Jain immigration into Mysore, 286-287; its chief *Mutts* and *Gurus*, 287-289; sects among the Jains, 289; their moral code, 290-291; and sacred books, 291-293; their *Thīrthānkaras*, 293-294; later history of Jainism in Mysore, 294-295.

(v) Buddhism, 295-298: its early history and how it was introduced into the State, 295-297; causes of the decline of Buddhism as described by Dr. Rhys Davids, 297-298.

(vi) Later Hinduism in the State, 298-331.

(*a*) The several Brāhman Sects, 298-322; the *Smārthas* and their teacher Sankarāchārya, 299-305; his birth and early life, 299-301; his works, 301-304; his teachings and system of Vēdānta, 304-305; Sringēri Mutt, founded by him, 306-308; the *Srī Vaishnavas*, 308-316; antiquity of Vaishnavism; the *Bhāgavatar*, 308-309; the *Ālvārs*, 309-310; Nāthamuni and his successors, 310-311; Ramānuja, the founder of 'Dvaitism,' 311-316; his birth and early life, 311-313; his flight to Mysore, 313-315; his system of Vēdānta, 315-316; later history of Vaishnavism—*Madhvas*, 317-322; Madhvāchārya, the founder, 317-320; his early life, 317; his works, 318; his system of Vēdānta, 319-320; the Mādhva *Mutts*, 320-322.

(*b*) Lingāyats, 322-331; Vīrasaivas, and what they are, 322-323; early Saivism, 323; influence of the Kashmirian Saivisim, 324; the Pāsupatha system, and its spread in the State, 324-326; Basava and his early reforms, 326-327; spread of his religion, 327-328; Vīrasaivic doctrines, 328-331.

(vii) Islam, 331-340: what it is, and how it was first introduced into Mysore, 331-337; distribution of Muhammadans in the several districts of the State, 337-338; the various sects among them in the State, 338-340.

(viii) Christianity: 340-352; the Catholic Church, its work and how it came into the State, 340-

347; the London Mission and its activities in the State, 347-349; the Wesleyan Mission and its work, 349-351; other Churches at work in the State, 351-352; Bibliography, 353; table showing the religions of the State, 436.
Reptiles: in Mysore State, 111-118.
Rhys David, T. W.: His description of the causes of the decline of Buddhism, 257.
Rice, Rev. Benjamin: A Christian missionary of repute, remembered for his translation of the *Bible*, 349; the first to write modern school books in Kannada, 349; also the editor of the earliest periodical *Arunōdaya*, in the Kannada language, 349.
Rice, Rev. E. P.: The chief reviser of the *New Testament* and *Pentateuch*, referred to, 349.
Rice, L.: His opinion on the Tōdas, 142; His derivation of *Karnātaka*, 254; his opinion regarding the early existence of Brāhmanism in Mysore referred to, 281; his *Mysore and Coorg from the Inscriptions* quoted from, 283; his view regarding the development of early Vēdic Hinduism, 282-284; his opinion on the introduction of Jainism into Mysore cited, 286; his commentary on the date of succession, etc., of Sūrēshvarāchārya's death quoted from, 307; his opinion regarding the Pāsupathi *gurus* referred to, 324.
Rice, Mrs.: of the Wesleyan Mission, her interest in female education, 348.
Risley, Sir Herbert: His classification of Dravidians, 166-167; criticised by Haddon, Crooke and others, 167-169.
River Systems: in Mysore, 5; those flowing into the Bay of Bengal, the Tungabhadra, the Cauvery, the two Pennars and the Pālar, 5; those into the Arabian Sea, the Sharāvati, the Gargita and the Nētravati, 6; Gersoppa Falls, 6; watershed separating them, 6; limits of river basins, 7; total length of main rivers, 7-8; navigation on rivers, 8-9; rafts and ferry boats on, 9-10; irrigation from, 10.
Rivers, Dr. W. H. R.: His opinion on the Tōdas of the Nilgiris, 141-142.
Rodwell, J. M.: His translation of the *Korān* referred to, 334-335.

S.

Sadānanda: The author of *Vēdānta Sāra*, a work written about 1500 A.D.; his views on Sānkhya philosophy referred to, 303, 304.
Sāle: A weaver class in the State, the derivation of their name from Sanskrit *Sālika*, a weaver, 239; their descent from Mārkandēya Rishi, 239; their sub-division into two sections, 239; their tutelary deity, 239; tradition relating to their immigration, 239; their social manners and customs, 239; infant marriage, a feature of their customs, 239; their usual caste titles, *viz.*, *Ayya*, *Appa*, *Setti*, 239.
Sallekhana: also called *Samādhi*, *Sanyāsana*: religious suicide; instances of, 290; period of fast, 3 days to one month, 290; recorded instances range from 600 A.D. to 1809 A.D., 290; the process described, 290-291.
Sankarāchārya: One of the three great Teachers of the South said to have been living in the second half of the 8th Century, 298; his birth and early career, 299-301; his works, 301-304; his system of *Vēdānta*, 304-305; the *Mutt* at Sringēri established by Sankara, 306.
Sankara Vijaya: Life of Sankarāchārya referred to, 299.
Sāmanta Bhadra: A Jain teacher (2nd Century A.D.), 295.
Sandal: in Mysore, 66-68; its distribution, growth, and propagation, 66-67; spike disease, 67-68; investigations in regard to spike disease, 68.
Sanderson, Rev. D.: Member of the Wesleyan Mission; edited Reeves' *Kanarese-English Dictionary*, 351.
Sangda: regular ferry boat; Cf. *Saggada* of the *Periplus*, 9.
Saundarya Lāhari: A work of Sankara, referred to, 299.
Sayce, Professor: His views on the evolution of speech summarised, 159.
Schists, in Mysore: the Dhārwar and other types of them, 24-25; distribution of the Schist Belts in the State, 30-32.
Seasonal rainfall: Distribution of, in Mysore, 47; in the cold weather period, 47; in the hot months period, *i.e.*, March—May, 47; the South-West

Monsoon, 47; July, the most rainy month in *malnad* and September in *maidan* parts, 48; the retreat of the South-West Monsoon commences in October, 48; tables of monthly and seasonal distribution of rain for the various districts, 57. *See under* Rainfall.

Seligman, Professor: His view that production depends not only upon character and education, but also upon social organization, referred to, 413.

Seligmann, Dr. & Mrs.: Their view of Veddahs and their affinities, 144.

Semon, Professor R.: on the racial affinities of the Australians, 152-153; connection between Australians and Dravidians, *Ibid.*

Seniga: an immigrant weaver caste from the Tamil country, 240.

Sewell, Mrs.; of the Wesleyan Mission; her interest in female education in the State, 348.

Sex, Statistics of: 382-390; normal excess in Mysore of males over females, 382; general proportion of males to females in the various districts, 383; causes for the disproportion, 383-384; in the city areas, 384-385; the 'natural' population of the State more favourable to females, the proportion being 972 females to 1000 males, 386; reason for same, 386; statistics of the sexes according to castes, 386-387; age-periods of males in the State, 387; heavy mortality among females, 387; migration has no influence on the general sex-ratio as a whole, 389.

Sharāvati: a river, 5.

Shiahs, the: one of the main sects of Islam, 336; reject the claims of the three *Khalifs* that succeeded Muhammad, and attach supreme importance to the lineal descent of the *Imam* or head of the Faithful, 336; their various subdivisions, 337; chiefly to be found in Persia and Africa, 337; their mysticism, 337; influenced by Zoroastrianism, 337. *See under* Sunnis.

Shimsa: the river, 6; flows into the Cauvery, 6.

Shōlas: Sheltered hill-sides in Western Ghats, 4.

Shrubs and bushes: in the State; list of, 66.

Slater, Rev. T. E.: (1883-1904), of the London Mission, 348; his lectures in the London Mission High School Hall at Bangalore, referred to, 348.

Smith, R. Mayo: His opinion *re* the variation in the population of the State quoted from, 360.

Smith, Sir Vincent: His views regarding the introduction of Jainism into Mysore referred to, 286.

Snakes: *See under* Reptiles.

Sollas, W. J., LL.D., D.Sc., F.R.S.: His Presidential address to the Geological Society, London, as to the age of the various Geological formations referred to, 18.

Sowrāshtra: The *Patnūli and Jamkhānwāla* caste in Mysore State, 239.

Spike-disease in Mysore: first reported from Coorg, 67; its spread in the State, 68; scientific investigations of the disease, 68; reward of Rs. 10,000 offered by the State to any one who discovers the cause of the disease and suggests an effective remedy, 68.

Sringēri Mutt: established by Sankarāchārya, 306.

Stokes, Mr. Henry: of the Madras Civil Service; his opinion about the people of the old Nagar Division quoted from, 414, 427, 428.

Sūfis, the: A sect of Islam; the origin of their name, 337; their theory of Incarnation and Pantheistic tendencies, 337; located mostly in Persia and India, 337; Jalal-ud-din Rumi (1207-1273 A.D.), the most famous *Sūfi*, referred to, 337.

Sunnis, the: or Traditionalists, a main sect of Islam, 336; unlike the Shiahs, accept the *sunnat* as concurrent with or supplementary to the *Korān*, 336. *See under* Shiahs.

Sūlekere: in Shimoga District, one of the largest tanks in the State, 11; its circumference (40 miles), 11.

Syādvāda: The great philosophical tenet of Jains; explained by Jacobi and Bhandarkar, 291-293; view of Jain Pandits, 293.

T.

Tabard, Reverend Father A. M.: A Missionary of great repute in Mysore, 347; St Patrick's Cathedral in Bangalore built by him, 347; admitted to

the order of *Gaṇḍabhēruṇḍa* with the title of *Rājasabhābhūshaṇa* by His Highness Srī Krishnarāja Wadiyar IV, 347.

Tables and Classifications other than statistical: Physical aspects: River Systems in Mysore, 8; Mountain Systems in the State, 14-15. Geological: table of formation, 20; tabular view of Mysore rocks, 36-37. Meteorological: table showing the chief observatories in the State, 42; tables of rainfall and droughts, 49-50. Botanical: classified list of typical species of trees to be found in the various Forest Belts of Mysore, 62, 63, 64, 65, and 66; a list of important fruit trees in Mysore, 69; a list of indigenous grasses in the State, 70; list of crops, 71-72. Zoological: table showing the number of kheddahs in the State, 129; a table of captures, 130. Ethnological: classified list of the Left-Hand and Right-Hand castes in Mysore, 178-179; a list of the strongest *gōtras* in Mysore, 217; a list of castes in Mysore professing to be Lingāyats, 233. Philological: classified list of the main languages in Mysore, 251. Religion: lists of traditional *gurus* of the Jains, 287, 288, 289; a list of the twenty-four Jain *Thīrthāṅkaras*, 293, 294; succession list of the Sringēri *gurus*, 306-307; a traditional list of the Srī Vaishnavaite *Ālvārs*, 309.

Tagore, Sir Rabindranath: on the effects of Caste, 175.

Talpargis: or spring-heads; an important feature of the hydrography of the North-East of Mysore State, limits of their occurrence, their nature, geological formations in which they occur, how water from them is used for irrigation purposes, 11.

Tank System: of Mysore, 10; called *kēre*; their nature and varying sizes, their distribution and number, 10-11; the more important of them, 11; other large irrigational works of recent times, 11.

Tat Tvam Asi: "thou art that," the identity of individual soul with God or Brahma—essence of Sankara's School of Philosophy, referred to, 304.

Telang, Mr.: His theory regarding the date of Sankara's birth referred to, 299.

Temperature in Mysore: Its equability due to the high elevation of the State, 43; mean temperature for the warmest part during the hottest month, less than 85, 44; diurnal range of temperature, 44; diurnal variation of air temperature, 44; table showing mean diurnal range of temperature, 54; average maximum temperature, 24; tables showing monthly normals of maximum and absolute maximum temperatures for the various months, 55.

Tengalais, the: or Northerners, a sect among the *Srī Vaishnavas*, 310, 311; origin of, 310; later development of, 316.

Thēras: Missionaries sent by Asōka to preach Buddhism in Mysore, 296; their failure in the attempt, 296.

Thibaut, Dr. G.: His translation of Sankara's *Vēdānta Sūtras* referred to, 301, 302; his opinion on some of the works of Sankarāchārya, 302-304; his views on the *Bhāgavathas* referred to, 308, 312, 315.

Thomas, Mr.: His revision of the classification of *Mammals* adopted by W. T. Blanford, 75.

Thompson, Dr. T. T.: the Superintendent of the Wardlaw Memorial Hospital, referred to, 349.

Thurston, Edgar, C.I.E.: His *Tribes and Castes of Southern India* referred to, 139-140; his anthropometric data criticised, 140; his views on Dravidian problem quoted from, 150-151.

Tiele, C. P.: His genealogical classification of religions referred to, 271.

Tīpu Sultān: of Mysore; his persecution of Jesuits, 343; his fall in 1799 referred to, 344.

Thīrthaṅkaras: Jain Saints; twenty-four in number, 293-294; Pārsvanātha and Mahāvīr, 23rd and 24th of them respectively, historical persons, 293; Jain *Purāṇas* bear their names, 294.

Tōdas: A Nilgiri tribe; views of Drs. Rivers and Pope, 141-142; Mr. Rice's views, 142.

Togata: A Telugu caste of weavers, 240.

Totemism: in Mysore, 196-199.

Towns in Mysore: Their definition as per census of 1921, 364; their number, 364; the most important towns in the State, 364; causes for the increase in

the number of towns since 1911, 364; revision of the Municipal Regulation in 1918 and consequent re-classification of Municipal areas, 364; urban population, 365; urban population compared with other countries, 365; causes for the smallness of urban population, 365; want of diversity in the occupations of the urban population, 365; tables showing population of towns, 434, 435.

Townsend, Meredith: His essay entitled the "Arabian Prophet" in his well-known studies, *Asia and Europe*, referred to, 333.

Tumkur: Earthquakes at, 37, 38; periodicity in rainfall gauged at, 49.

Tungabhadra: A river, 5, 6; the Tunga and the Bhadra, 6.

Turanian: migrations, referred to, 157.

Turner, Sir William: His views on the similarity between the Dravidians and Australians referred to, 164.

U.

Upanishads: Tendency of the teachings of, referred to, 174.

Uppāra: A caste of earth-salt workers found chiefly in the Mysore District, 241.

V.

Vadagalais: or Northerners, a sect of *Srī Vaishnavas*, 310, 316; origin of, 310; later history of, 316.

Vardhamāna: otherwise *Mahāvīra*, 285; *See under* Mahāvīra.

Variation in population: since 1901, tables of, 469.

Vegetables: English and Indian, 70. *See* Volume IV.

Vernaculars, in Mysore: Their number for purposes of census, 398; table showing the number of people who speak the various vernaculars in the State, 399.

Vihāras: Residence of Buddhist monks and teachers, 296; early examples of them at Belgāmi, referred to, 296.

Villages, in Mysore: Units of land revenue administration, 364; inhabitants of, 364; their number as per census of 1921, 366; their varying character in the State, 366; the 'fort,' '*pēte*,' and *chāvadi* and temple—their main characteristics, 366; tables relating to, 434.

Vīrasaivas: *See under* Lingāyats.

Vishnu: A member of the Hindu Triad, 298; the worship of, 311.

Vital Statistics, Registration of: *Patēls*, solely responsible for their collection in rural areas, 455; tables showing, 469-471.

Vodda: A caste of earth-workers, well-sinkers etc., 242.

Vokkaliga: The general name for the cultivating castes in Mysore, 242-47.

Vrittānta Patrike: A Kannada weekly issued by the Wesleyan Mission Press at Mysore, since 1890, 351.

Vyāsa Rāya: A great polemical writer contemporaneous with Krishnadēva Rāya of Vijayanagar (1509-1580), 321; Purandaradāsa, his disciple, 321; his life history detailed in *Vyāsa Thīrtha Vijaya* and in *Vyāsa Yōgīsa Charita* by Sōmanātha, 321; *Vyāsarāya Mutt* named after him, 321-322. *See under* Vyāsasamudra.

Vyāsasamudra: Large tank at, in Shimoga district, 11.

W.

Watson, Forbes: His views regarding the value of *rāgi* quoted from, 425.

Watt, Mr.: His opinion as regards the seasonal flowering of the spring bamboo (*Bambusa arundinacea*) referred to, 427; helped to develop Kannada typography, 350.

Welsh, Colonel: His account of earthquake at Bangalore, 1813.

Whitehead, Bishop: His description of a *grāmadēvata* festival in Bangalore, 274-276; his theory of the origin of *Grāmadēvatas* discussed in his book *Village Gods of South India* referred to, 276-278.

Whitney: His view of Dravidian languages; his *Life and Growth of Language* quoted from, 262.

Widow remarriage: Not general in the State, 188; prevalent by custom among some castes, 188; prohibited among others, 188; form of remarriage, 190-191; lack of the usual marriage ceremony, a characteristic feature of, 190; influence of religion on, 191.

Wilks, Colonel: His testimony in regard to respect shown to the Abbè Dubois, 344.
Wilson, Dr. W. H.: on the Right-Hand and Left-Hand Castes, 179.
Winds: the velocity of, 51.
Winterbotham, Dr. J.: His work in connection with the Wardlaw Memorial Hospital referred to, 348.
Wroughton, R. C.: His revision of W. T. Blanford's classification of Mammals referred to, 75.

X.

Xavier, St. Francis: the zealous disciple of St. Ignatius of Loyola, came to India in 1542, 341; his attempts to convert *Karnâtaka*, 341.

Z.

Zoology of Mysore: Chapter V, pages 74-134.
(i) Introduction to, 74-75.
(ii) Mammals; 75-90; Family *Cercopithecidæ*, 75-76; Family *Lemuridæ*, 76-77; Family *Felidæ*, 77-80; Family *Viverridæ*, 80; Family *Hyænidæ*, 80; Family *Canidæ*, 81; Family *Mustelidæ*, 81; Family *Ursidæ*, 81-82; Order *Insectivora*, 82; Order *Chiroptera*, 82 and 84; Order *Rodentia*, 84-86; Order *Ungulata*, 86-90; Order *Edentata*, 90.
(iii) Birds, 90-111; introduction to, 90; order *Passeres*, 90-99; Order *Pici*, 99-100; Order *Zygodactyli*, 100; Order *Ansiodactyli*, 100-102; Order *Macrochires*, 102; Order *Coccyges*, 102-104; Order *Psittaci*, 104-105; Order *Striges*, 105-106; Order *Accipitres*, 106-107; Order *Columbæ*, 107-108; Order *Pterocletes*, 108; Order *Gallinæ*, 108-109; Order *Hemipodii*, 109; Order *Grallæ*, 109; Orders *Limicolæ* and *Gaviæ*, 110; Order *Steganopodes*, 110; Orders *Herodiones* and *Anseres*, 111.
(iv) Reptiles, 111-118; introduction to, 111-112; Orders *Emydosauria* and *Chelonia*, 112; Order *Squamata*, 112-118.
(v) Amphibians, 118-121; introduction to, 118; Order *Ecaudata*, 118-120; Order *Apoda*, 120-121.
(vi) Fishes, 121-196; introduction to, 121; Order *Physostomi*, 121-125; Order *Acanthopterygii*, 125-126.
(vii) Elephant Kheddahs, 126-130; Pit method, 126-128; Kheddahs, 128-129; the Mysore System, 129; statistical table of captures, 130.
(viii) Game law, 130-132.
(a) General outlines, 130-131; the Mysore Game and Fish Preservation Regulation, 130-131.
(b) Definition of "Game," 132.
(c) Penalties under the Regulation and the rules thereunder, 132; *e.g.*, the Madras Act No. I of 1873, pertaining to the capture and destruction of elephants, 132; Bibliography, 133-134.
Zoroastrianism: Influence of, on the *Shiah* Sect of Muhammadans, 337.



915.487/MYS



58845